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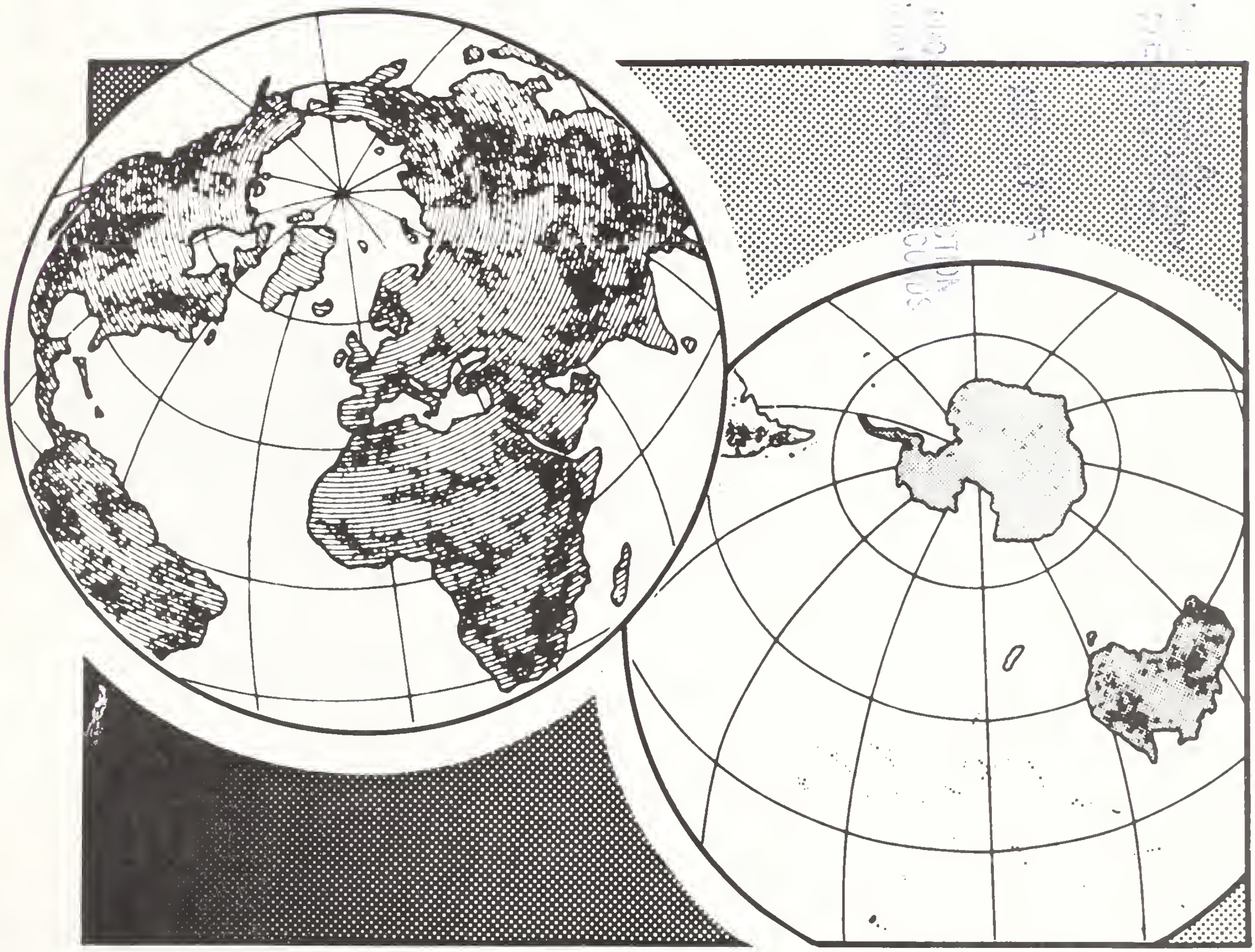
Agricultural Situation:

Africa and the Middle East

Review of 1980 and Outlook for 1981



Agricultural Situation: Africa and Middle East, Review of 1980 and Outlook for 1981. Africa and Middle East Branch, International Economics Division, Economic Research Service, Supplement No. 7 to WAS 24. Approved by the World Agricultural Outlook Board.

ABSTRACT: In 1980 total agricultural production in Africa increased by 1.8 percent. Per capita food production for the continent continued to decline and stood 13 percent below the 1969-71 index of 100.

Many countries in Eastern and Southern Africa were affected by a second year of drought. Armed conflict triggered migration which put additional burdens on already vulnerable countries. Over 1.7 million refugees fled Ethiopia from the Ogaden and Eritrea, mostly to Somalia.

Africa's three main export crops—coffee, cocoa beans, and cotton—had mixed production patterns. For the first two, world prices declined in 1980. U.S. agricultural exports to Africa increased by 38 percent to $2.2 billion; U.S. agricultural imports were $1.4 billion, up 13 percent over 1979. The overall U.S. trade balance with Africa worsened considerably in 1980, reaching a deficit of $24 billion primarily because of large oil imports from Nigeria, Algeria, and Libya.

In the Middle East total agricultural output rose 2.9 percent. With a record Turkish crop, total Middle East wheat production climbed to 22.6 million tons. Iran's agricultural production declined for the second consecutive year. U.S. agricultural exports to the Middle East declined by 6.1 percent to $1.36 billion. The loss of the Iranian market was a major cause. In the 1980's the Middle East market will continue to grow creating potential for U.S. exports.

KEYWORDS: Africa, Middle East, OPEC, oil, food aid, drought, agricultural production, agricultural trade, U.S. share, export earnings, balance of payments.

This report was generated as part of the International Economics Division's ongoing program of agricultural situation and outlook analysis and reporting. The program's regularly scheduled publications include: the World Agricultural Situation and Outlook published three times annually; regional situation and outlook reports on Asia, Africa and the Middle East, the People's Republic of China, Eastern Europe, the Soviet Union, Western Europe, and the Western Hemisphere published annually; indices of world and regional food and agricultural production published annually; the Foreign Agricultural Trade of the United States published bi-monthly; the Food Aid Needs and Availabilities Report published quarterly; and the Outlook for U.S. Agricultural Exports published quarterly. All are available on request from the Economic Research Service, U.S. Department of Agriculture, Room 0054, South Building, 14th and Independence Avenue, S.W., Washington, D.C. 20250.

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Assistant Director for Situation and Outlook

Washington, D.C. August 1981

FOREWORD

This is an analytical review of the agricultural situation and outlook in Africa and the Middle East. Agricultural highlights cover 27 countries in Africa and 15 countries in the Middle East. Also included are special sections on food aid needs in Africa, Middle East trade, and two reports covering countries in the Sahel and Southern Africa, which are not individually discussed.

Due to updating and revisions, the data in this report may sometimes differ from data in the World Agricultural Situation and from Indices of Agricultural Production. It should be noted that the Indices of Production are based on 1969-71 = 100, whereas in previous years the basis was 1961-65.

Michael E. Kurtzig directed and coordinated preparation of this report. Authors were Michael A. Cullen, Jerome Iverson, Michael E. Kurtzig, Kevin Lanagan, Margaret B. Missiaen, John D. Parker, Peter A. Riley, Shahla Shapouri, Herbert H. Steiner, H. Charles Treakle, and Lawrence A. Witucki. Paulette Hatfield, Nancy Kenney, Denise Morton, Bernadine Holland, and Carrie Thompkins typed the various drafts and prepared the manuscript for publication.

Acknowledgement is extended to the Foreign Agricultural Service's U.S. agricultural attaches, whose annual situation and commodity reports were drawn upon for this publication.

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CONTENTS

LIST OF TABLES

CHARTS

Abbreviations used include:
c.i.f. (cargo, insurance, and freight),
CPI (consumer price index),
EC (European Community),
FY (fiscal year),
GDP (gross domestic product),
GNP (gross national product),
IMF (International Monetary Fund)
and MY (market year).

Metric tons and U.S. dollars are used in this report, unless otherwise specified.

Africa and Middle East Agricultural Situation

SUMMARY

REVIEW OF 1980 AND OUTLOOK FOR 1981

Agricultural production in Africa in 1980 increased by 1.8 percent, making agricultural output 14 percent above the 1969-71 level.[1] Once again, production failed to maintain the historical (1954 to 1980) increase of 2.26 percent per annum. Per capita food production for the continent continued to decline and stood 13 percent below the 1969-71 index of 100 (See table 13, chart 1). Per capita agricultural production also fell, making the 1980 per capita output only 90 percent of that in 1969-71. This year's decline in per capita production is not an anomaly—on the contrary, with the exception of 1974, per capita production declined every year during the 1970's. In countries such as Angola, Ethiopia, Mali, Senegal, and Uganda, per capita agricultural production ranges from less than one-half to about three-fifths of what it was a decade ago.

Weak production, caused by serious drought and often by armed conflict, created moderate to serious food problems in 26 sub-Saharan countries during 1980. Food aid needs soared (see discussion on pages 7- 8), and governments were forced to spend larger quantities of foreign exchange on food imports. Over 18 million tons of food—primarily cereals—will have to be imported in 1981 to maintain per capita calorie intake at 1974-79 levels.

Much of the poor production record can be explained by the structure of food production and the natural environment. Most food is produced by subsistence cultivators, working relatively small holdings with few commercial inputs. Fertilizer use is lower than in either Asia or Latin America, and water control lags far behind other developing continents, with less than 2 percent of cultivated land under irrigation. These weaknesses are exacerbated by high rates of population growth, even higher urbanization rates, marketing systems which are frequently incapable of servicing the large number of small farmers, policies which provide too little incentive for producing and selling food, the high cost of domestic transportation, and the impact of higher oil prices on the overall balance of payments situation. The effect is to create agricultural systems delicately poised and vulnerable to abnormal weather conditions like those in 1980.

Agricultural production increased in several key countries. With the second largest corn crop in the decade, South Africa's agricultural output increased by 2.4 percent in 1980, compared with a decline of 1.2 percent in 1979. In 1981, South Africa is expected to harvest an all-time record, 14.2 million tons of corn. Farm output in Egypt rose by 3.4 percent, with a 10-percent increase in corn production. Nigerian production rose by 1.8 percent, although like that of its neighboring countries, its per capita production declined. Other agricultural producers showing substantial production gains in 1980 were Zimbabwe, Niger, Libya, Tunisia, Kenya, Morocco, Sudan, and Zaire.

[1]Based on production of 33 countries for which indices have been prepared. See tables 13 and 14 for indices for each country.

Total agricultural production declined in several countries. Production dropped 7 percent in Malawi, primarily reflecting a reduced corn crop. Algerian production was down 1.2 percent. With drought and war plaguing Ethiopia, production there fell by 5.4 percent. Production in Guinea was down 4.7 percent because of poor weather and a resulting decline in the rice harvest. With a substantially lower peanut and rice crop, Senegal's output declined by 1.2 percent in 1980. Its index of agricultural production stands 17 percent below the 1969-71 average. Mozambique's agricultural output declined by 1.3 percent because of poor weather and a consequent decline in corn output.

Corn production in Africa increased by 12.5 percent in 1980 to just over 26 million tons, reflecting South Africa's good crop (see table 15). Total wheat production was down 5.8 percent to slightly over 8.4 million tons, reflecting the major decline in South Africa and a slight decline in Egypt and Algeria. Sorghum and millet output neared 19.3 million tons, up 4.2 percent from 1979. The principal producer is Nigeria. Rice production was up 3 percent, with improved production in Nigeria and Madagascar but with a 5-percent decline in Egypt.

Africa's three main export crops had mixed production patterns. Cocoa bean production declined 1.5 percent, while cotton output rose 7.8 percent and coffee production increased 2.3 percent (see table 15). The world price for both cocoa and coffee dropped in 1980. From January to December 1980 cocoa bean prices dropped from 139.1 to 91.2 cents per pound and by May 1981 had dropped to 82.6 cents per pound, the lowest price since April 1976. Despite the price drop and the loss sustained from holding some cocoa off the market, the Ivory Coast, the world's leading producer, was able to maintain its overall export earnings because the crop of 1979/80 was good. Ghana, the world's largest producer through 1976, now ranks third behind the Ivory Coast and Brazil. Cocoa production in Ghana recovered significantly in 1979/80 to 296,000 tons, increasing export earnings. The 1980/81 harvest declined to 270,000 tons.

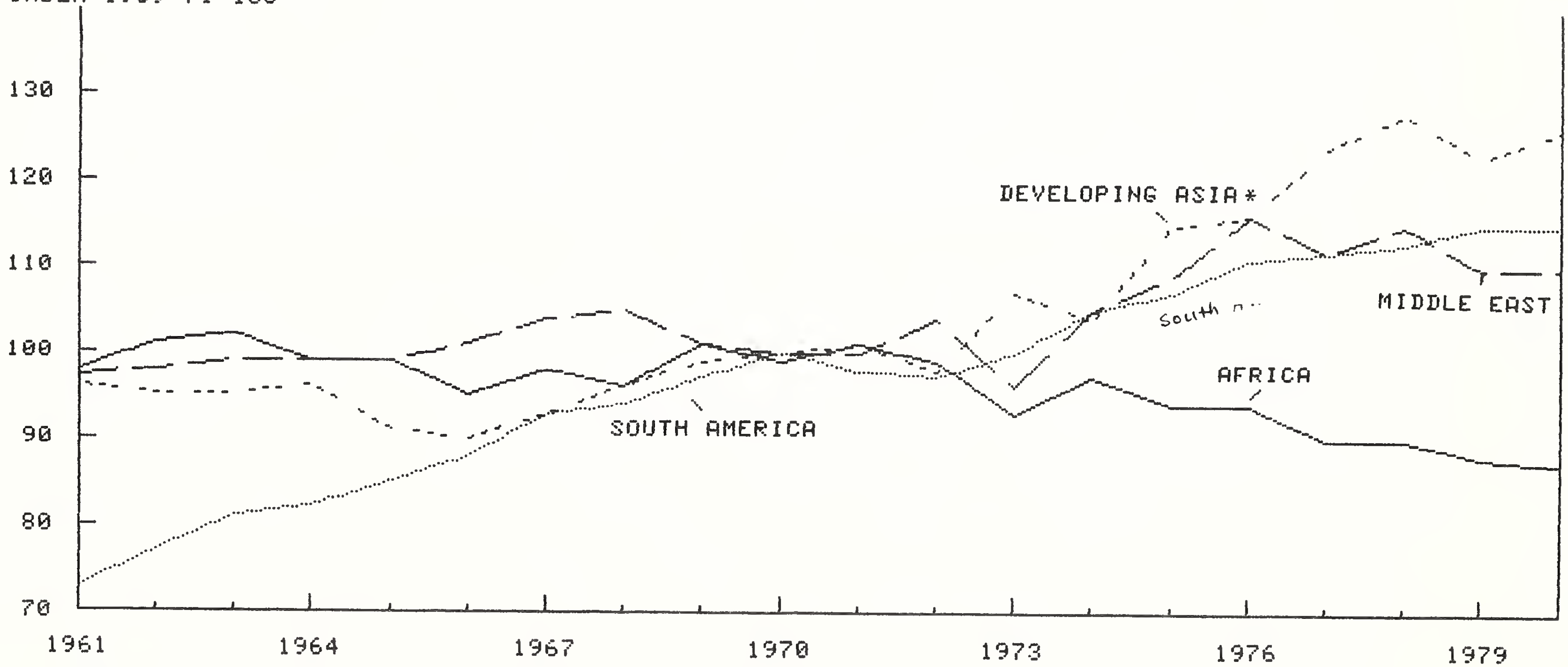
Coffee continues to be Africa's number one agricultural export with a value near $3.1 billion in 1979 (see table 5). The Ivory Coast and Ethiopia are the leading coffee producers in Africa. African coffee output rose by 2.3 percent in 1980. Exportable volume remained about the same, but the world price for coffee declined sharply from 184.1 cents per pound in January 1980 to 124.8 cents per pound in December. Foreign exchange earnings for African exporters dropped at a time when foreign reserves of these countries were already very low.

The value of U.S. agricultural exports to Africa increased by 38 percent to $2.2 billion in 1980 (see table 1). Both the value and the volume of corn exports more than doubled—to $326 million and slightly less

Chart 1

PER CAPITA FOOD PRODUCTION IN AFRICA, THE MIDDLE EAST, DEVELOPING ASIA AND SOUTH AMERICA

INDEX 1969-71=100



* DEVELOPING ASIA EXCLUDES JAPAN AND COMMUNIST ASIA.

Table 1. U.S. trade with Africa, 1979-80

Commodity	Quantity		Value	
	1979	1980	1979	1980
	1,000 metric tons		1,000 dollars	
U.S. exports:				
Wheat	3,758.3	4,028.1	594,208	720,955
Corn	1,129.8	2,377.4	139,704	325,636
Animal & animal products	---	---	233,484	290,952
Rice	385.6	534.4	143,606	238,592
Inedible tallow	280.0	338.1	153,750	169,240
Wheat flour	752.9	688.2	127,788	127,381
Cottonseed oil	116.3	168.3	73,489	107,992
Other agriculture	---	---	165,079	257,436
Total agriculture	---	---	1,621,108	2,238,184
Total exports	---	---	6,298,800	9,060,400
U.S. imports:				
Coffee	185.1	178.1	593,437	604,568
Cocoa beans	81.1	84.6	280,918	234,942
Sugar	407.5	471.8	99,832	256,261
Rubber, crude	54.7	51.7	64,848	73,794
Cocoa/cocoa butter/ cocoa cake	16.0	24.6	58,761	56,530
Other agriculture	---	---	171,417	207,192
Total agriculture	---	---	1,269,213	1,433,287
Total imports	---	---	24,384,100	32,254,300

Source: Bureau of the Census, U.S. Dept. of Commerce, Dec. 1980.

than 2.4 million tons, respectively. The value of corn exports as a share of total agricultural exports increased from 8.6 percent in 1979 to 14.5 percent in 1980. While the volume of U.S. rice exports increased by 39 percent, the value shot up by 166 percent. The volume of cottonseed oil exports increased by 45 percent but the price remained stable. Wheat constituted 32 percent of the value of agricultural exports, compared to 37 percent last year. Volume was 4 million tons, up 7.2 percent over 1979, while the price increased by 13.2 percent.

U.S. agricultural imports from Africa were $1.4 billion, up 13 percent over 1979. Coffee accounted for 42 percent of African agricultural products imported by the U.S., compared with 47 percent in 1979. While volume was down 3.8 percent to 178,100 tons, prices increased by 5.9 percent. Coffee imports were up only 1.9 percent, to slightly under $605 million. While there was a 4.3-percent increase in cocoa bean imports, a 16-percent cocoa price drop reduced their value. Sugar imports were up nearly 16 percent in volume. A 157-percent price increase pushed the total value to $256 million.

The U.S. trade balance with Africa worsened considerably in 1980. Total imports were over $32 billion, while exports neared $9 billion, resulting in a trade deficit near $24 billion (see chart 3). In 1979, the trade deficit was $18 billion. In the early 1970's, before the sharp increase in petroleum prices, U.S. and African trade virtually balanced each other. Three countries are largely responsible for the 1980 trade deficits: Nigeria at $10 billion, Algeria at $6 billion, and Libya at $7 billion. Nigeria is now the second largest supplier of U.S. oil.

For the Middle East, total agricultural output in 1980 was up 2.9 per cent, 42 percent above the 1969-71 level.[2] Per capita agricultural production remained constant, 8 percent above the 1969-71 base (see table 14). Jordan's agricultural production nearly doubled following the disastrous agricultural performance of 1979. Likewise, Syrian production was sharply higher following a poor year in 1979.

Grain production in Turkey, the region's leading agricultural producer, rose sharply to a record 13.8 million tons of wheat and a record 5.2 million tons of barley. Turkish barley exports rose from 17,000 tons in 1979 to an estimated 300,000 tons in 1980. Wheat failed to meet projected exports because of internal pricing and government purchasing problems. Turkey approaches its 1981 wheat harvest with a record 6.4-million ton carryover, exactly half of domestic utilization. Agricultural production in Iran, the second ranking producer in the region, declined by nearly 9 percent, following a 7-percent drop in 1979. Sharp declines in meat, milk, sugar beets, and cotton output led the downward trend. Because of these declines, plus internal marketing and distribution problems, Iran is estimated to have imported about $2.7 billion of agricultural products in 1980 and may exceed $3.0 billion in 1981.

Overall wheat production in the Middle East in 1980 climbed to a record 22.6 million tons, up 9.4 percent, following a 4.4-percent decline in the previous year (see table 16). Barley output also reached a record 8.7 million tons, up 23 percent from 1979. With a smaller cotton crop in Iran, a major producer and exporter in the 1970's, and a stagnant Turkish crop, there was a 3-percent decline in overall output.

In 1980, U.S. agricultural exports to the Middle East declined by 6.1 percent to $1.36 billion (see chart 2). The loss of the $400 million Iranian market took its toll (see table 2). The volume of wheat exports to the Middle East was down 43 percent, with a value decline of nearly 32 percent. Wheat exports to Iran dropped from 611,000 tons in 1979 to 50,000 tons in 1980. Total rice exports were down a moderate 7 percent, to 718,000 tons although exports to Iran went from 285,541 tons to zero. A substantial secondary trade developed between the United States and Iran, in wheat, corn, rice and other commodities, following the November 1979 refusal of the International Longshoremen to load cargo to Iran. Iranian sources estimated corn imports at 700,000 tons, although other estimates were considerably higher. Such a volume could only have emanated from the United States. Very sharp increases occurred in poultry meat exports, with exports to Egypt tripling to 48,000 tons, sales to Saudi Arabia nearly quintupling to 17,113 tons, and exports to Iraq going from zero in 1979 to over 25,000 tons in 1980.

U.S. agricultural imports from the Middle East declined by nearly 30 percent in 1980, led by sharp drops in dates, nuts, and sheep and lamb skins. Iran had been a major source for the nuts and skins. The value of tobacco imports was up 12.3 percent. The U.S. balance of payments with the Middle East for 1980 showed a $5.2 billion deficit, 36-percent higher than in 1979. However, the United States continued to maintain its very favorable balance of agricultural trade with the Middle East. (Michael E. Kurtzig)

[2]Based on the production of 9 countries for which indices have been prepared. See tables 13 and 14 for indices of each country.

FOOD AID

1980 was a crisis year for much of sub-Saharan Africa. Twenty-six countries had moderate to severe food problems. In some, like Somalia, Ethiopia, Uganda, and Djibouti, starvation occurred as local production, even augmented by commercial purchases and food aid, fell short of food demand.

There were several reasons for last year's acute problems. Many countries in Eastern and Southern Africa were affected by a second year of drought. This meant that production was substantially lower while food reserves were already drawn down. Drought was particularly hard on nomadic people, who depend upon their

Chart 2

U.S. TRADE WITH AFRICA-TOTAL AND AGRICULTURAL, ANNUAL 1972-80

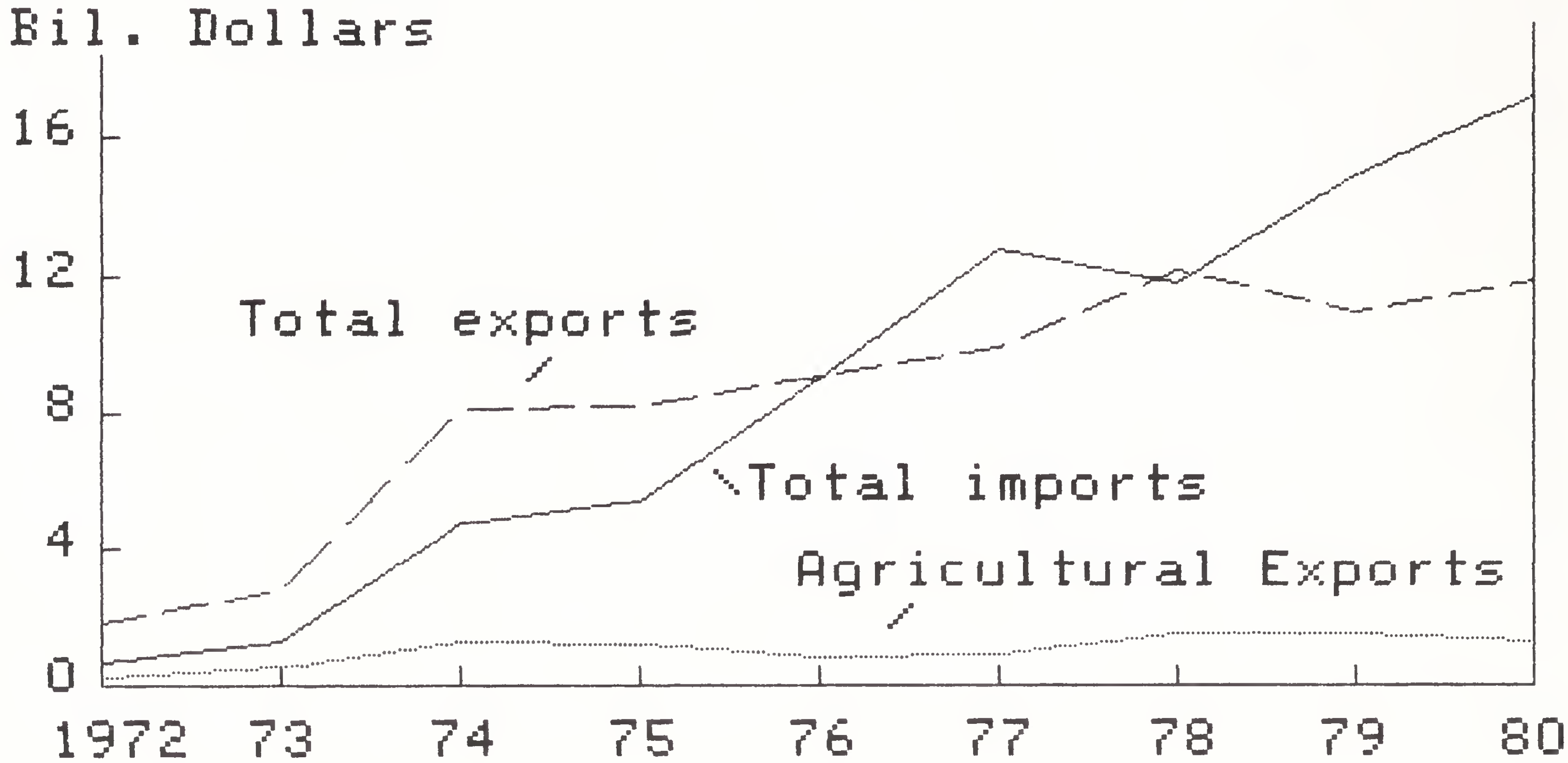
Table 2. U.S. trade with the Middle East, 1979-80

Commodity	Quantity		Value	
	1979	1980	1979	1980
	1,000 metric tons		1,000 dollars	
U.S. exports:				
Rice	774.7	718.3	338,394	355,144
Wheat	1,982.3	1,122.3	307,161	210,008
Corn	947.7	1,135.1	110,760	147,246
Poultry & poultry products	---	---	15,747	86,569
Soybeans	449.3	298.2	122,651	78,202
Grain sorghums	609.5	447.6	65,387	57,772
Oil cake & meal	231.9	100.6	55,147	25,408
Soybean oil	119.6	10.3	74,184	6,581
Other agricultural	---	---	357,078	391,143
Total agricultural	---	---	1,446,509	1,358,073
Total exports	---	---	11,029,800	11,899,800
U.S. imports:				
Tobacco	49.8	57.1	139,919	157,145
Fruit, prep. (mainly dates)	---	---	30,952	15,973
Nuts	---	---	51,624	11,872
Sheep & lamb skin	6.8	1.4	39,123	7,560
Spices (mainly licorice root)	3.1	1.9	5,844	3,224
Other agricultural	---	---	31,160	15,218
Total agricultural	---	---	298,622	210,992
Total imports	---	---	14,985,300	17,279,300

Source: Bureau of the Census, U.S. Dept. of Commerce, Dec. 1980.

Chart 3

U.S. Trade with the Mideast-total and Agricultural, annual 1972-80



herds for food. Cattle losses in some areas (for example, Northern Kenya, northwestern Uganda, Djibouti) were very high. As cattle died or were lost to raiders as in Uganda, nomadic people became heavily dependent on cereals, creating both higher import requirements and logistics and delivery problems.

Second, armed conflict triggered migration which put additional burdens on already vulnerable countries. There were three major catalysts for refugee movements. The most significant numerically was the conflict between Ethiopia and Somalia in the Ogaden area. It is estimated that over 1.7 million people have fled Ethiopia from the Ogaden and Eritrea. The majority (1.3 million) went to Somalia, the rest to Sudan and Djibouti. The civil war in Chad led an estimated 115,000 people to flee, most to Cameroon (100,000), the rest to Sudan. Finally, unsettled conditions in Uganda prompted some 118,000 people to flee, most to Sudan (60,000), the rest to Zaire.

Critical food shortages existed in Kenya, Tanzania, Zambia, Sudan, Zaire, Somalia, Uganda, Djibouti, and Ethiopia. In the last four countries some of the population was starving—refugees and nomads in Somalia, the Karamajong people in Uganda, refugees and nomads in Djibouti, and isolated rural populations in Ethiopia. While the weather improved early in 1981 in Kenya, Zambia, Ethiopia and Sudan, substantial food aid requirements remained for the 1980/81 year. Together these nine countries required 3 million tons of food aid in 1980/81 to maintain pre-crisis consumption levels.

Large food aid shipments will be required in 1981/82 in Morocco if the effects of the current drought are to be offset. A 1-million-ton barley shortfall, coupled with a serious drop in wheat production, means that import demand could rise to 3.5 million tons, double last year's level. Finances are currently inadequate to fund the full level, and some 1.9 million tons of food aid will be required.

Sub-Saharan Africa, as a whole, would require some 3.7 million tons of food aid in 1981/82 simply to sustain 1977/78-1980/81 consumption levels. In addition to the 1.9 million tons required to respond to the drought in Morocco, 1.1 million tons are needed to sustain the U.S. food aid commitment to Egypt. Africa's total requirement is estimated to be almost 60 percent of total global requirements for food aid.

If the focus were shifted toward achieving minimal nutrition standards, rather than historical consumption patterns, the needs assessment would change. Sub-Saharan Africa's requirement would rise to 10 million tons, an increase of some 270 percent. Morocco's requirements would drop to 1.1 million tons, while Egypt's requirement would be eliminated.

While many of the difficulties discussed reflect short-term weather patterns, they are complicated by structural factors. First, food production throughout sub-Saharan Africa has been inadequate, and it is the only developing region to experience a decline in per capita food production over the past 15 years * (see chart 1) . Second, the financial position of many countries is precarious. The prices received for major export commodities (such as coffee, cocoa, uranium, and phosphates) have not kept pace with rising prices for imported commodities. Hence, while 44 African countries are projected to have higher nominal export earnings in 1981, more than 80 percent will simultaneously experience a worsening balance of trade. Petroleum imports are a major drain on export earnings, especially for Morocco and the seven countries in sub-Saharan Africa that are spending more than 40 percent of their export earnings on oil: Cape Verde, Kenya, Madagascar, Mozambique, Mali, Sudan, and Tanzania. (Kevin Lanagan)

*See "Food Problems and Prospects in Sub-Saharan Africa, the Decade of the Eighties," USDA, ERS, IED, Africa Middle East Branch, September 1980.

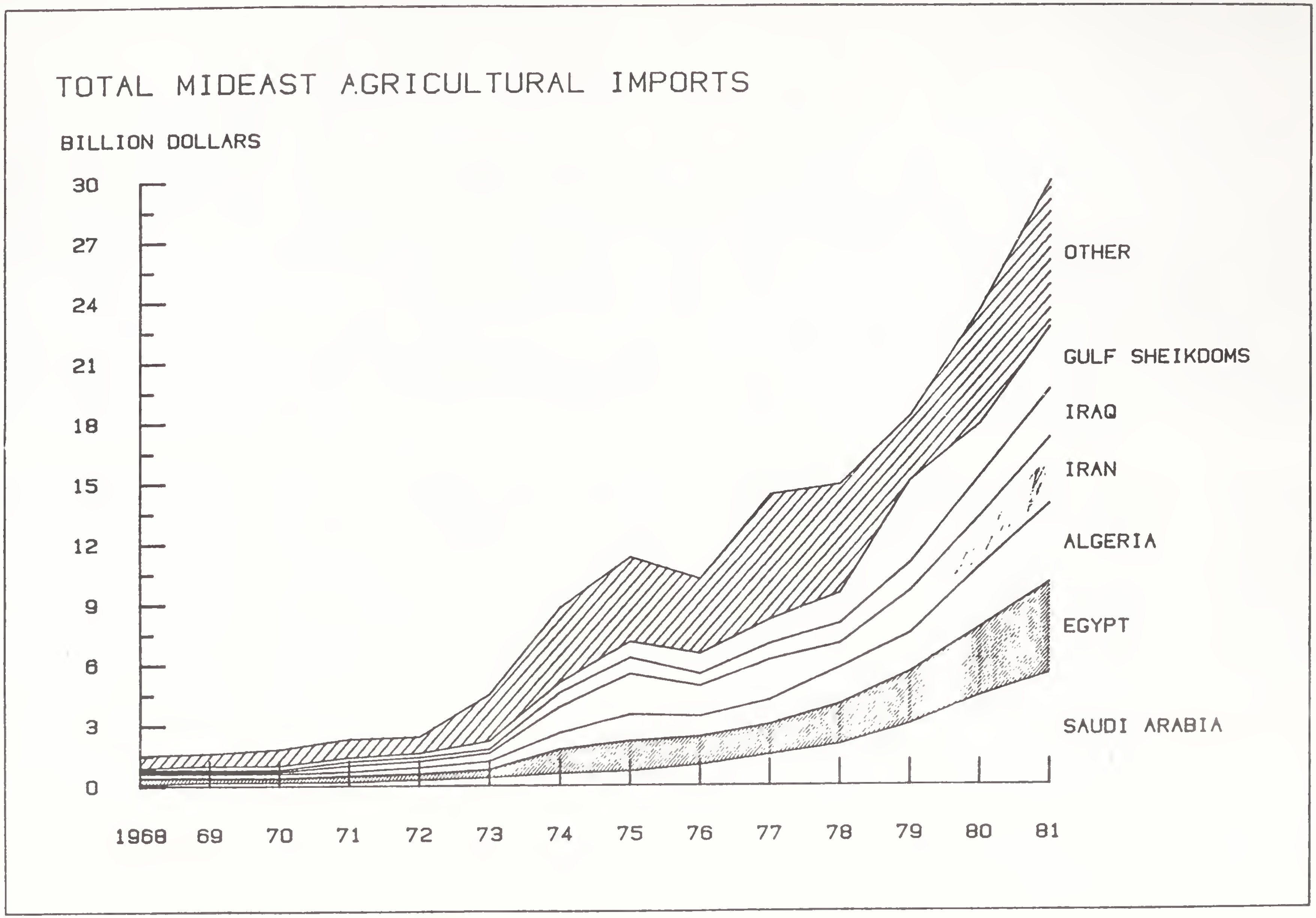
Agricultural Imports by the Mideast And North Africa Soar But the U.S. Share Declines

Demand for agricultural commodities is increasing rapidly in all the countries from Morocco to Iran. Population growth in this area is nearly 3 percent annually, and the growth in food demand probably exceeds 5 percent annually. In the recent decade, the average diet has improved tremendously and further gains are under way this year. With the exception of Turkey, most countries in the Mideast and North Africa have greatly increased imports in order to improve their diet. Total agricultural imports by the Mideast and North Africa increased about 33 percent in 1980 to $24 billion, about six times the 1973 value. The U.S. share of the region's agricultural imports reached a peak of 17.5 percent in 1975, but declined to 13 percent in 1979 and was only 11 percent in 1980. Still, total value of U.S. agricultural exports to the region increased from only $248 million in 1972 to $2.6 billion in 1980.

The rapid growth in agricultural imports by the region is expected to continue during 1981—possibly with another $6-billion increase to a new peak of $30 billion. This estimate was derived from an analysis of import needs and plans of each country. Estimates for U.S. agricultural exports to the region indicate a growth of about 15 percent in value to about $3 billion. U.S. agricultural exports to Egypt * are expected to rise by more than 30 percent to over $1 billion, and sales to Saudi Arabia may exceed $500 million. Other major markets in the region with purchases of U.S. farm products over $200 million include: Israel, Iran, Iraq, and Algeria. Dramatic gains are also under way for our sales of farm products to Kuwait, UAE, Morocco, and Jordan.

*A study on the "Urbanization and Agricultural Policy in Egypt," USDA, ERS, IED, Africa and Middle East Branch, is forthcoming in August 1981.

Chart 4


TOTAL MIDEAST AGRICULTURAL IMPORTS
BILLION DOLLARS
30
27
24
21
18
15
12
9
6
3
0
1968
69
70
71
72
73
74
75
76
77
78
79
80
81
OTHER
GULF SHEIKDOMS
IRAQ
IRAN
ALGERIA
EGYPT
SAUDI ARABIA

Agricultural imports by all countries in the region increased in 1980. Even Turkey had a rebound in agricultural imports with larger purchases of sugar and tallow. In the recent decade, all Arab countries and Iran have shown a sharp upward trend in food imports, for similar reasons:

(1) Dramatic gains in per capita income have come from soaring petroleum revenues or financial flows related to petroleum wealth and have contributed to remarkable improvements in the average diet.

(2) Government policies and programs have been adjusted to allow much larger agricultural imports to satisfy the needs of cities with rapid population growth. Subsidies have been provided for most essential food items to keep prices low for urban consumers. Farmers have at times encouraged larger imports of grain so they could shift to more profitable crops such as vegetables.

(3) The physical area of cropland available for cultivation in the Arab countries declined in the recent decade because of urbanization. This meant that maintaining per capita agricultural output became difficult, and was attained only through higher yields and greater multiple cropping. Iran faced a similar problem although its extensive area of pastureland and new irrigation projects meant a static situation rather than a decline.

(4) Abundant supplies of agricultural commodities were available for export from the EC, U.S., Brazil, Australia, and some other suppliers. Prices for most food items remained very attractive, and larger purchases by countries in the region provided some new opportunties offered by economies of scale.

(5) The astonishing growth in demand for livestock products in Arab countries, combined with the array of export subsidies provided by the EC, Brazil, and other countries, contributed to a boom in Arab and Iranian imports of poultry meat, eggs, milk, butter, and cheese.

(6) Elaborate programs to build new port facilities, grain storage, and refrigerated grocery stores and to improve the overall infrastructure facilitated the rapid growth in imports of diverse products, including processed foods, fruit juices, fresh fruits and vegetables, and oilseed products.

While the growth in food imports occurred in all countries in the region during the last 3 years, some countries stand out because of their phenomenal gains and developments which ensure continued growth. Saudi Arabia emerged from a relatively small agricultural importer in the early 1970's with annual purchases of less than $400 million, to an important importer of food and beverages valued at more than $4 billion in 1980. While the most rapid growth in Saudi food imports occurred among livestock products and processed foods, the country has also become a significant grain importer. Saudi Arabia's grain imports in 1980 were estimated at 3.5 million tons—more than half the volume imported by Egypt. The U.S. share of Saudi agricultural imports declined from 24 percent in 1974 to about 9 percent in 1980 while deliveries by the EC, Australia, and Brazil soared.

Egypt was the second most important agricultural importer in the region with imports increasing over 30 percent in 1980 to about $3.4 billion—ten times the average value during 1970-72. Egypt's agricultural imports are also becoming more diversified, with striking gains for imports of livestock products, horticultural items, pulses, corn, tobacco, and processed foods. The U.S. share of Egypt's agricultural imports declined from about 40 percent in 1974 to only 23 percent in 1980, partly because of dramatic gains in sales of subsidized farm products by the EC. U.S. agricultural exports to Egypt increased 28 percent to $770 million in 1980, but EC shipments to Egypt exceeded $1 billion. U.S. agricultural exports to Iran plummeted from $415 million in 1979 to $8 million in 1980—a major factor in our dwindling share of the region's food imports.

EC agricultural exports to the Mideast and North Africa in 1980 were about $5 billion—nearly double the U.S. value. Spectacular gains occurred in their exports of wheat, wheat flour, barley, poultry meat, sugar, and dairy products, partly because of subsidy programs and export restitution payments. Following Egypt, Saudi Arabia was the second major Mideast market for EC exports of farm products, with purchases valued at nearly $1 billion. EC agricultural exports to Iran, Kuwait, UAE, Yemen Arab Republic, Oman, Libya, Morocco, Syria, and Turkey were considerably above the value of U.S. sales of farm products to those countries.

French wheat and flour exports to the region rose to over 4 million tons in 1980—surpassing U.S. deliveries. Australia's agricultural exports to the Mideast and North Africa increased sharply through 1980 to nearly $2 billion. Exports of wheat and flour to the region surpassed 4 million tons. Australia picked up a great deal of the wheat trade in Iran when trade with the United States halted. Australia's agricultural exports to Iran, Iraq, Saudi Arabia, and Egypt totaled each about $300 million in 1980.

Total imports of wheat and flour by the Mideast and North Africa increased about 2 million tons in 1980 to over 18 million tons. This was greater than the Soviet imports of 15 million tons of wheat last year. U.S. exports of wheat and flour to the region fell 21 percent in 1980 to 3.7 million tons. With resumption of shipments to Iran and larger sales to Egypt and Morocco, a rebound to 5 to 6 million tons should occur in 1981.

During the 1980's, Middle East imports of wheat will continue to grow. Bread is the staple of the Middle East diet and growth in incomes and population has dramatically increased its consumption. The newly wealthy oil exporting countries are beginning to consume more refined bakery products. These new breads and cakes are proving extremely popular and should encourage continued growth in per capita wheat consumption. Wheat imports will be further aided by a decline in wheat flour imports. The Middle East OPEC countries are all attempting to limit their flour imports by doing their own milling.

Table 3. United States Share of Middle East OPEC Agricultural Imports

	1972	1973	1974	1975	1976	1977	1978	1979	1980 1/
					---Million dollars---				
Total Agricultural Imports:									
Algeria	301.5	448.6	822.9	1,329.3	974.4	1,268.6	1,416.0	1,563.8	3,100.0
Iran	304.7	433.3	1,270.7	2,011.0	1,478.1	1,862.2	2,201.0	2,128.2	2,500.0
Iraq	148.3	223.5	704.0	776.6	617.0	774.7	1,039.0	1,349.8	1,985.0
Kuwait	175.2	208.6	276.1	428.9	478.9	575.5	630.8	734.7	1,012.0
Libya	173.9	321.4	474.8	609.2	473.8	724.9	721.7	835.6	960.0
Qatar	26.8	37.3	60.9	57.1	83.9	86.2	95.7	103.2	133.0
Saudi Arabia	282.2	398.7	561.8	701.6	1,066.3	1,500.8	2,251.1	3,003.0	4,400.0
United Arab Emirates	75.0	99.0	197.4	305.0	440.0	520.0	685.0	930.0	1,180.0
Total	1,487.6	2,170.4	4,368.6	6,218.7	5,612.4	7,312.9	9,040.3	10,648.3	15,270.0
Total U.S. Exports									
					---Million dollars---				
Algeria	40.0	71.2	170.5	216.3	112.1	139.7	143.5	125.5	175.6
Iran	76.0	108.9	534.2	423.2	238.5	423.2	492.9	415.1	8.2
Iraq	1.6	32.4	114.8	86.0	61.3	62.8	139.2	146.0	255.3
Kuwait	4.6	8.4	21.3	10.6	12.9	15.9	20.6	22.7	47.3
Libya	3.9	6.4	26.0	11.6	11.6	16.6	12.9	18.4	14.6
Qatar	0.3	0.4	1.6	1.0	1.5	1.6	5.4	3.0	5.4
Saudi Arabia	32.8	65.5	110.0	117.1	165.0	171.1	315.3	325.5	375.4
United Arab Emirates	0.9	3.6	6.1	9.2	13.2	12.5	30.9	43.8	113.7
Total	160.1	296.8	984.5	875.0	616.1	843.4	1,160.7	1,100.0	995.5
U.S. Share									
					---Percent---				
Algeria	13.3	15.9	20.7	16.3	11.6	11.1	10.2	8.1	5.7
Iran	25.0	25.2	42.1	21.1	16.2	22.8	22.4	19.6	0.4
Iraq	1.1	14.5	16.4	11.1	10.0	8.2	13.4	10.9	12.9
Kuwait	2.7	4.1	7.8	2.5	2.7	2.8	3.3	3.1	4.7
Libya	2.3	2.0	5.5	2.0	2.5	2.3	1.8	2.3	1.6
Qatar	1.2	1.1	2.7	1.8	1.8	1.9	5.7	3.0	4.1
Saudi Arabia	11.7	16.5	19.6	16.7	15.5	11.5	14.1	10.9	8.6
United Arab Emirates	1.2	3.7	3.1	3.1	3.0	2.5	4.6	4.8	9.7
Total	10.8	13.7	22.6	14.1	11.0	11.6	12.9	10.4	6.6

Note--Share calculation may be understated as value of U.S. exports is reported F.O.B., while imports by the countries are C.I.F. Given the lack of data from the countries on the value of agricultural imports by origin, it is necessary to use the above comparisons to obtain a trend of shares in the market.

1/ Preliminary

Sources: FAO Trade Yearbooks, Bureau of the Census, and ESS estimates.

Imports of rice by the Mideast continued to rise in 1980, mostly because of larger purchases by Iraq, Saudi Arabia, and the UAE. Total imports of rice by the region increased about 16 percent to over 2 million tons, mostly because of larger deliveries by Asian suppliers. U.S. exports of rice to the region fell 8 percent in 1980 to 716,000 tons, but higher prices caused the value to rise 5 percent to $359 million.

In the countries east of Egypt, rice imports grew substantially during the 1970's, and there is excellent potential for further expansion. Although not as versatile as wheat, rice is considered a superior food and is an important part of the diet. Usually rice is expensive relative to bread, but continued income growth has encouraged more consumption, especially among middle-and lower-income groups.

The EC captured much of the growth in imports of feed grains by North Africa, Iran, Saudi Arabia, and Lebanon in 1980, but the United States sharply increased sales of corn to Egypt, Jordan, and Kuwait. Total imports of feed grains by the region increased more than 20 percent in 1980 to over 7 million tons. U.S. exports of corn to the Mideast and North Africa increased 66 percent in 1980 to 2.4 million tons, including nearly 1 million tons to Egypt alone. Further growth to nearly 4 million tons of U.S. feedgrains may occur in 1981.

Feed grain imports are projected to expand significantly during the 1980's. With rising incomes, meat consumption has been growing rapidly. To reduce and eventually eliminate meat imports, all the countries have placed great emphasis on domestic livestock feeding operations, especially for poultry, dairy, and sheep. With feed production fairly stagnant, increasing imports have been required. Barley, the traditional feed of the Middle East, has been the largest import. Corn imports are growing rapidly, however, as ration feeding is becoming more accepted. In addition, Saudi Arabia and Iran have been importing large amounts of sorghum. Although expanding rapidly, feeding operations are still quite small. Their growth will encourage larger feed imports, especially of corn.

Many animals fed with these imported grains will themselves be imported. With the exception of Algeria and Iraq, all of the countries import large numbers of live sheep. These sheep are fed for short periods and then slaughtered. Because of traditional Muslim slaughter preferences and a lack of refrigeration, these imports will continue to grow. The Middle East OPEC countries also import live cattle, mainly for dairy production, although Libya also imports animals for meat. Growing demand for milk has increased dairy cow demand, but poor management has kept herds from becoming self-sustaining. Since this situation does not seem to be changing, dairy cow imports will continue to grow, at least for the next few years. Hatching chicks also are imported in large numbers as emphasis is placed on local poultry production, and these imports should continue to grow.

Even with local poultry meat production increasing rapidly, demand has not been satisfied. Imports of poultry meat by the area increased over 20 percent in 1980 to about 650,000 tons. This included about 200,000 tons by Saudi Arabia—one of the world's three largest poultry meat importers-and over 70,000 tons each by Egypt, Iran, Iraq, and Yemen Arab Republic. French exports of frozen poultry to Saudi Arabia exceeded 72,000 tons in 1980—nearly double the 1979 level. Their shipments to Yemen Arab Republic surpassed 40,000 tons. U.S. exports of frozen poultry to the region quadrupled during 1980—reaching 97,000 tons valued at $129 million—up from 24,000 tons valued at $29 million in 1979. Our exports of frozen poultry to Egypt soared from 16,000 tons in 1979 to 48,000 tons in 1980. Iraq resumed purchases of U.S. frozen chickens in 1980, buying 25,000 tons. The U.S. also shared in the growing Saudi market, with shipments increasing from 3,000 tons in 1979 to over 17,000 tons in 1980. Total Mideast imports of poultry meat may reach 800,000 tons in 1981, and U.S. shipments to the region could rise by 50 percent.

The local dairy industry also has not been able to keep up with demand. Although in the past dairy products have not been an extremely large part of the diet, they are finding increasing acceptance. Almost all of the milk that is produced locally is consumed fresh; very little is diverted to cheese or butter production. In fact, the demand for fresh milk cannot be met, and huge quantities of dry milk are imported. Since fresh milk production is not likely to expand as rapidly as demand, imports of dairy products will continue to increase throughout the 1980's.

Oilseed imports by the Middle East OPEC countries are small. In almost all of the countries peanuts and sesame are the largest imports. These are used almost totally for confectionary purposes. 0nly Algeria and Iraq import any appreciable amounts of oilseed for crushing: Iraq about 30,000 tons of soybeans and Algeria approximately 100,000 tons of rapeseed. It is unlikely that much crushing expansion will occur in the early 1980's, and thus no large expansion of oilseed imports is foreseen.

Imported vegetable oils are important in the Middle East diet. Imports vary with the size of the country, as do the types of oils imported. Iran, with the largest population in the area, is the largest importer, buying over 200,000 tons of soybean oil and 30,000 to 50,000 tons of cottonseed oil annually. Algeria is second, taking over 100,000 tons of rapeseed oil annually. It is the world's largest rapeseed oil importer. Recently, Algeria's sunflower oil imports have grown to 40,000 tons. Iraq imports nearly 100,000 tons of palm oil annually. Saudi Arabia also imports palm oil, though substantially less than Iraq. Kuwait and Libya use olive oil as their main cooking oil. The United Arab Emirates and Qatar import small quantities of most oils, including corn oil.

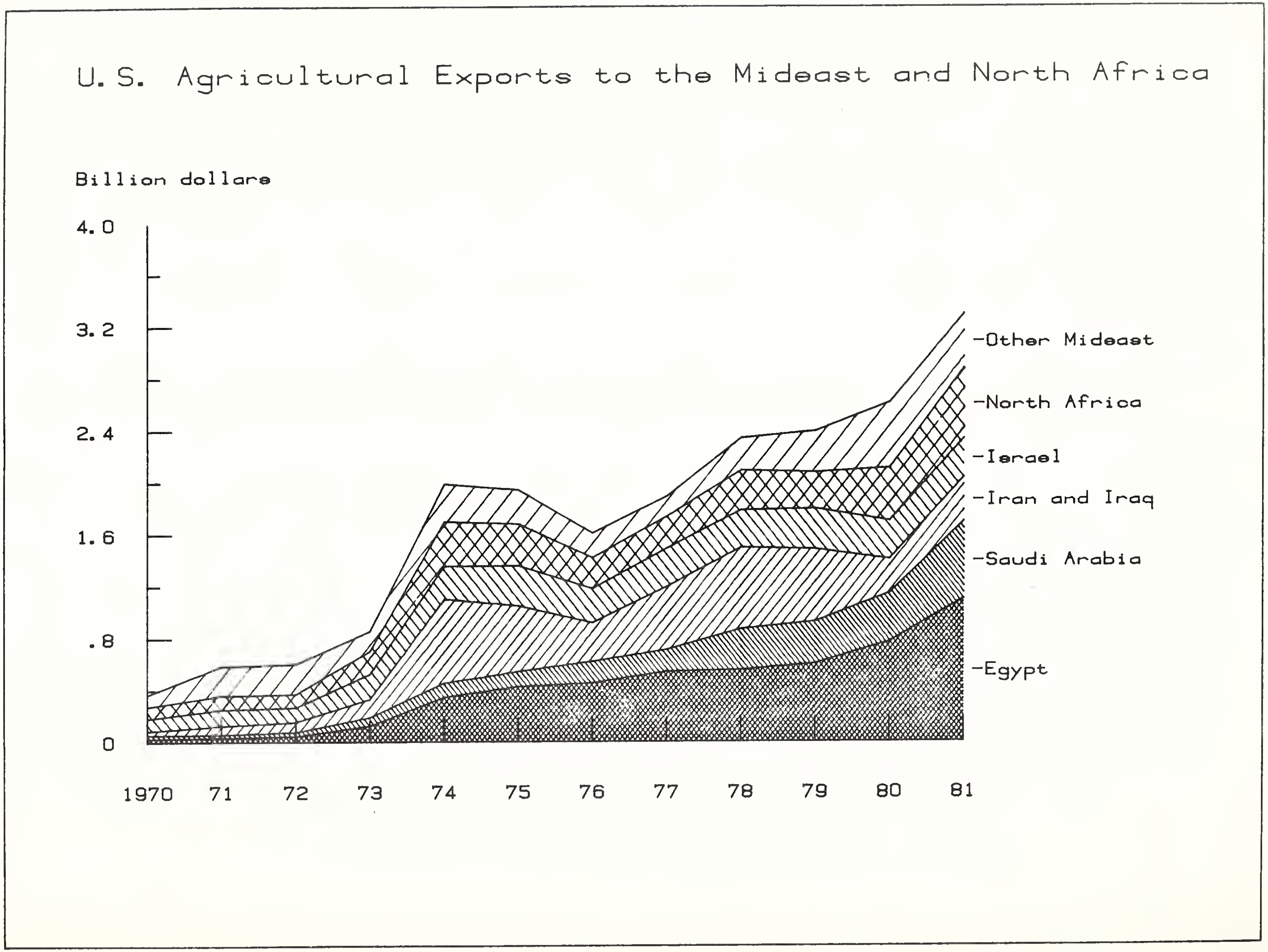
Imports of fresh and dried horticultural products also grew substantially during the 1970's as domestic output was not able to keep up with demand. Algeria became the region's largest importer of both fresh vegetables (over $41 million in 1979) and pulses ($36 million in 1980 from the United States alone). Further growth is likely. Imports of vegetables by Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates also grew substantially. Although Iran dropped out as the area's largest citrus importer, purchases by Saudi Arabia, Kuwait, and the Emirates have been growing so rapidly as to offset Iran.

Table 4. Middle East OPEC agricultural imports by commodity, 1975-1980

	1975	1976	1977	1978	1979	1980 1/
	Million dollars					
Wheat	814	641	773	846	1,009	1,440
Wheat flour	302	224	232	231	280	302
Rice	489	435	514	673	802	1,058
Barley	74	88	172	191	218	457
Corn	60	83	151	160	194	252
Other feed grains	27	22	39	60	54	84
Live cattle	58	56	98	113	128	140
Live sheep	220	185	322	393	424	570
Beef & veal	63	134	145	161	206	317
Lamb & mutton	121	141	254	226	194	415
Poultry meat	105	218	260	251	317	428
Dried & evaporated milk	260	263	347	355	466	563
Cheese	77	108	142	185	244	314
Butter	81	73	99	138	206	260
Peanuts	9	7	25	25	22	36
Soybeans	2	5	14	14	11	16
Cottonseeds	0	1	0	1	1	2
Sesame	5	5	5	8	14	15
Soybean oil	191	145	153	224	173	213
Cottonseed oil	28	17	20	38	27	30
Sunflower oil	72	21	15	42	53	66
Rapeseed oil	46	31	34	45	73	95
Palm oil	77	57	97	126	119	133
Soybean meal	31	37	81	95	97	129
Fresh citrus	83	110	83	88	104	116
Other fresh fruit	134	150	143	184	209	217
Dry fruit	7	8	9	11	9	19
Fresh vegetables	32	31	53	62	97	140
Pulses	56	46	67	72	81	141
Fruit preparations	9	14	32	34	42	63
Vegetable preparations	50	92	123	166	194	279
Fruit juices	17	42	50	65	65	92
Other beverages	53	99	187	296	356	442
Sugar	1,516	658	588	602	706	1,138
Bakery products	25	33	58	80	102	122
Nuts	5	9	19	12	29	47
Tobacco products	175	225	312	355	470	550

1/ Preliminary
Sources: F.A.O. Trade Yearbooks, and Matrix Table Estimates

Chart 5


U.S. Agricultural Exports to the Mideast and North Africa
Billion dollars
4.0
3.2
2.4
1.6
.8
0
1970
71
72
73
74
75
76
77
78
79
80
81
-Other Mideast
-North Africa
-Israel
-Iran and Iraq
-Saudi Arabia
-Egypt

Major growth has also occurred in fresh deciduous fruits, especially in Saudi Arabia and the Persian Gulf states. Although imports seem to be leveling, substantial growth in the entire region could occur if the other countries decide to enter the market.

The most spectacular import growth has been in processed food. In some of the Middle East OPEC* countries, processed foods are the single largest food imports. Most of these are fruit and vegetable preparations, and canned goods. Imports increased from under $11.6 million in 1970 to over $342 million in 1980 and are still on the way up. Saudi Arabia is the largest importer, taking over $100 million in 1979. Libya imported over $40 million in 1979, and for their size Kuwait, Qatar, and the United Arab Emirates are large importers. Much of the growth in the imports has been in canned vegetables and beverages.

The import growth of sugar and related products in the region's OPEC countries has also been substantial. In 1970, sugar imports amounted to $67 million, but by 1980 they had grown to $1.1 billion. Sugar is an extremely important product in the region, and as incomes have increased, so has its consumption. The 1980's should see continued growth, especially as more sugar is used in pastry making.

Tobacco product imports by the Middle East OPEC countries are also very large and growing rapidly. While Iran's imports fell substantially in 1979 and 1980 as a result of the Islamic Revolution, growth in other

Persian Gulf countries more than offset Iran's decline. It is suspected that a good part of the Gulf's imports were transshipped to Iran. In addition, imports of tobacco products by both Algeria and Libya grew during the late 1970's. As incomes grow, imports of tobacco products can be expected to grow tremendously.

Mideast-North Africa agricultural imports are likely to exceed $30 billion in 1981, and U.S. shipments to them should rise by 15 percent to about $3 billion. EC agricultural exports to the region might reach $7 billion this year with much larger deliveries of wheat and dairy products to North Africa. Morocco will join the rapid growth markets in 1981 because of the additional needs created by the recent drought.

In the 1980's this market will continue to grow, creating potential for expanded U.S. exports if there is active market development. If plans for livestock development materialize, feed grain imports will increase substantially, as will oilseed meals. Later in the decade, oilseed imports might also expand if the countries decide to crush domestically. Live animal imports will also continue to rise, but not rapidly enough to decrease meat imports during the early 1980's. The growth in processed food imports will continue, especially as Iraq and, to a lesser extent, Algeria enter the market. (James R. Coyle & John B. Parker)

*A study on the "Middle East OPEC Agricultural Import Demand", by USDA, ERS, IED, Africa and Middle East Branch is forthcoming in early 1982.

Table 5. Africa's agricultural trade, 1977-79

Commodity	1977	1978	1979
	Million dollars		
Exports:			
Coffee	3,558.5	2,737.4	3,084.4
Cocoa beans	1,834.5	2,510.9	1,936.6
Cotton	1,225.6	959.6	1,169.1
Sugar	800.7	690.3	768.1
Tobacco	285.7	313.9	391.1
Oranges, tangerines	301.5	383.0	361.1
Corn	234.1	380.5	334.2
Tea	310.7	280.3	257.2
Beef	133.8	104.5	186.3
Peanuts	197.6	128.2	114.9
Other agriculture	3,926.7	4,115.7	4,307.8
Total	12,809.4	12,604.3	12,910.8
Imports:			
Wheat	1,717.3	2,137.3	2,380.8
Sugar	782.9	824.4	802.3
Rice	576.7	872.3	649.0
Wheat flour	413.5	540.3	585.1
Cond. & evap. milk	268.2	328.4	360.8
Tea	219.9	327.7	294.8
Dry milk	220.2	254.3	292.3
Soybean oil	124.6	220.4	258.3
Tobacco	200.2	252.5	235.8
Corn	220.9	273.4	223.8
Other agriculture	3,921.2	4,212.3	4,393.2
Total	8,665.6	10,243.3	10,476.2

Source: 1979 FAO Trade Yearbook.

AFRICA

Algeria

The Economy

Real growth was only 5 percent, but nominal GDP reached $36 billion (approximately $1,935 per capita) in 1980. The rapidly rising income from an estimated 75 million tons (petroleum equivalent) of gas and oil production provided more than 90 percent of the foreign exchange earnings, and most of the government revenue. This allowed for investment at the exceptionally high rate of almost 50 percent of GDP. Borrowing declined, as higher oil prices allowed more financing from current earnings. As a result, debt, which was estimated at $13 billion at the end of 1979, increased at a slower rate in 1980. Interest on the debt, plus payments for transportation, contracting, and consulting services, kept the service account in deficit. Private consumption increased sharply, stimulated by general wage increases of 10 percent and wage increases of 20 percent in agriculture. After many years of shortages, ample quantities of consumer goods and foods were on the market.

Many new high technology factories built during the 1970's, largely for import substitution, lacked skilled manpower and suffered low productivity. Investment in education and training are expected to improve productivity in these plants. More recently, the emphasis has shifted to labor-intensive factories operated by Algerians, rather than high technology production requiring the services of expensive expatriates.

Agricultural Production

Agriculture has been a neglected sector, and production has shown few clear trends in recent years. Per capita food production declined to 80 percent of the 1969-71 average. The main reason for the decline is that population has increased 38 percent while production of wheat has remained about the same. In 1980 production of the grains, hard and soft wheat, barley, and oats reached 2.3 million tons, about the same as in 1979. Barley production for the 1978-80 period was 38 percent above the 1969-71 average; most of this increase came from increased area planted. The wheat and barley zone covers about 6 million hectares in several discontinuous regions, that extend 1,000 kilometers from east to west and southward from the Mediterranean Sea for about 150 kilometers. Each year about half of the area is fallowed. In recent years plantings have been divided as follows: 1.5 million hectares of durum, 700,000 hectares of bread wheat, and 800,000 hectares of barley. Wheat yields have averaged only 570 kilograms per hectare and barley yields 640 kilograms per hectare. About 62 percent of the cereal land is owned by small farmers who until recently have not received extension assistance or credit. These farmers plant wheat and barley on small plots using traditional methods, without the benefit of fertilizer. Extremely low yields are common on 1 million hectares that are not suited for grains.

Agricultural Policy

The principal objective of Algeria's 1980-84 development plan is a significant improvement in the standard of living, and the creation of 1 million new jobs. After 10 years of emphasis on rapid industrialization, now agriculture, hydraulics, and housing will get priority. Agriculture and hydraulics have been allotted 12 percent of the $100-billion budget. Some $5 billion are to be spent on agriculture alone. The goal is essentially to become self-sufficient, except in cereals (33 percent to come from local production), milk (57 percent to be local), and red meat (81 percent to be local). In order to improve production, private farmers, who own 62 percent of the arable land and comprise 71 percent of the permanent labor force in agriculture, are to get more resources and incentive to use them. This is a complete change in policy. The service cooperatives are to provide seed, fertilizer, farm implements, credit at subsidized prices, and extension services free of charge to all farmers, including those in both the private and the socialized sectors. Formerly

these services were available only to the state farms and the Agrarian Reform Cooperatives.

The $7 billion allotted to hydraulics will be spent mainly for dams that are expected to double the irrigated area by the year 2000, from the current 462,000 hectares.

Agricultural Trade

Spurred by higher petroleum prices, trade was up by more than 60 percent in 1980. Total exports were between $13 and $14 billion, up from $7.5 billion in 1979. Imports were between $14 and $15 billion, up from $8 billion. A major reason for the sharp rise in imports was the Government's decision to eliminate shortages of consumer goods and foods. In 1980, agricultural imports soared to $3 billion. Despite large increases in the value of nonagricultural imports, the share of food imports rose to 20 percent, led by 2.4 million tons of wheat and coarse grains. Other items were coffee, tea, spices, sugar, milk and dairy products, vegetable oil, canned fruits and vegetables, meats and live animals, pulses, oilseeds, cotton, and tobacco.

U.S. agricultural exports to Algeria in 1980 were valued at $176 million; wheat, corn, beans and lentils, tallow, soybean meal, sunflowerseed oil, sugar, and tobacco were the major items. While the United States bought more than half of Algeria's petroleum, France remained the principal source of Algerian imports. In 1980, the U.S. balance of payments deficit with Algeria exceeded $6 billion. Algeria's exports of agricultural products continued to decline; valued at $150 million, they included wine, citrus fruit, and dates.

Outlook

The wheat and barley harvest in June 1981 is expected to be average. The new emphasis on agriculture should substantially increase agricultural production for the first time in over 20 years, but even if the new policy succeeds, rapidly rising income should make Algeria an attractive market for agricultural commodities in the future. (Herbert H. Steiner)

Egypt

The Economy

Egypt's economic outlook in 1981 is more favorable than it has been in 2 decades. Petroleum fields developed by American firms in Sinai and the Gulf of Suez will provide about $4 billion in revenues this year—up from $2.5 billion in 1980 and about $1 billion in 1979. The new wealth and revenue inflow have contributed to some significant changes in Egypt's economic policy.

Prior to 1973 strict foreign exchange laws were a great barrier to investment in Egypt, as well as to Egyptian participation in foreign trade or foreign employment. These laws have been relaxed. Foreign investments in hotels and apartments have skyrocketed. Remittances from Egyptians working abroad are now about $2 billion annually, second only to petroleum as a source of foreign exchange.

The peace with Israel has allowed Egypt to give top priority to economic growth rather than military efforts. Following the Camp David accord of 1979 Israel has been a major importer of Egyptian petroleum. Cooperation between the two countries in attracting tourists has boosted Egypt's foreign exchange earnings from tourism to over $700 million annually.

The real purchasing power of the average urban Egyptian has improved remarkably in the last several years. The greater flow of investment capital to public companies permitted modernization and expansion of factories. In addition, the public companies seldom deliver their profits to the Ministry of Finance, but instead now divide the profits among the workers in the form of bonus payments. Meanwhile, prices for many consumer goods remained fixed at very low levels. Food subsidies, which may cost $2 billion this year, have been expanded. Egypt probably has the world's lowest bread price—only 5 cents per pound for the traditional balady bread.

The importance of cotton and rice export profits for public firms has diminished. The inflow of large revenues from other sources has contributed to a marked change in the farm price policy in the last 3 years. Prices paid for cotton and rice have been increased considerably, although they are still below the average price received by most farmers in other countries.

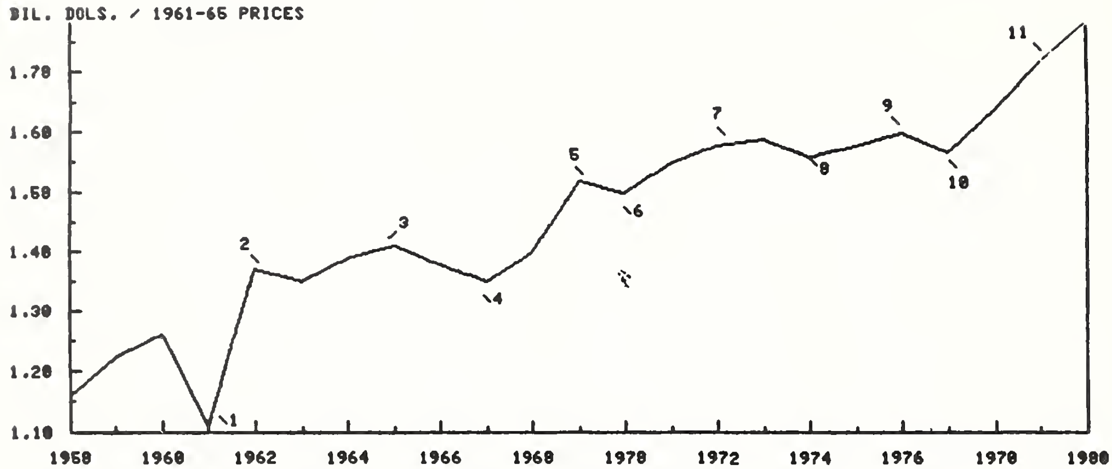
The combination of rising petroleum revenues and greater domestic economic activity bolstered Egypt's GNP by about 28 percent in 1980, to approximately $23 billion. Yet an inflation rate of 15 percent and population growth of 3 percent left only a 10-percent real growth in per capita GNP. Per capita incomes reached $535.

Agricultural Production

Total agricultural production increased 3 percent in 1980, in contrast to a gain of 4 percent in 1979. Higher cotton yields contributed considerably to the upward trend in crop production during 1978-80. A shift to new varieties provided a 44 percent jump in Egypt's average cotton yields between 1977 and 1979. Production in 1980 was up 9.5 percent, to 530,000 tons. Dramatic growth in domestic demand for cotton products contributed to the shift to the new varieties, which are more acceptable to domestic mills than to foreign customers.

In 1980, Egypt's grain production increased 2 percent to nearly 7.4 million tons, although the area planted declined 2 percent to slightly less than 2 million hectares. Higher yields pushed corn output to a record 3.23 million tons, but a 5-percent decline in area caused wheat production to retreat 3 percent to 1.8 million tons. The rice area declined 6 percent and output of milled rice fell 5 percent to 1.6 million tons. Output of sorghum increased 4 percent to 643,000 tons. Record yields for barley partly offset the 11-percent decline in area. The slow growth in Egypt's output of livestock products since 1977 has lessened the overall rate of growth for agricultural production. Egypt's meat output was estimated at 450,000 tons in 1980. This included about 240,000 tons of beef and 132,000 tons of poultry meat. Output of milk remained virtually static at about 1.8 million tons.

CHANGES IN EGYPT'S AGRICULTURAL PRODUCTION DURING 1958-80 AND SIGNIFICANT FACTORS INFLUENCING THEM.



1. CONFUSION AND DISTURBANCES RELATED TO LAND REFORM CAUSE SHARP REDUCTION IN RICE AND COTTON PRODUCTION.
2. NEW PLAN FOR PLANTING CORN EARLIER AND IMPROVED TECHNOLOGY BOOST CORN YIELDS.
3. ORDER RESTORED, AND THE NEW GOVERNMENT MARKETING SYSTEM REQUIRING PLANTING OF SPECIFIED ALLOTMENTS CAUSES REBOUND FOR COTTON AND RICE.
4. UNUSUAL WINTER FROST CRIPPLES OUTPUT OF PULSES AND VEGETABLES. SIX-DAY WAR DISRUPTS SOME CROP PRODUCTION.
5. ORANGE GROVES BEGIN PRODUCING, TOMATO CROP RISING, SHARP EXPANSION IN RICE OUTPUT.
6. STRONG GAINS IN COTTON, RICE, GRAPE AND ORANGE OUTPUT.
7. COTTON YIELDS IMPROVE AS CROPS SPUR USE OF IMPROVED SEED.
8. SEVERE INSECT DAMAGE HURTS COTTON YIELDS, LOSS OF FERTILE CROPLAND TO URBANIZATION NOT OFFSET BY DEVELOPMENT OF NEW LAND.
9. BUMPER CORN CROP.
10. INSECT DAMAGE CAUSES LOSSES FOR COTTON.
11. REBOUND IN YIELDS OF COTTON, RICE AND VEGETABLES.

Soybean production increased from 41,000 tons in 1977 to 106,000 tons, but retreated to 91,000 tons in 1980. Peanut output increased slightly to 34,000 tons. Production of pulses continued to decline as farmers shifted more land to bersim. Farmers get excellent profits from bersim, a clover crop grown for animal feed. Output of horse beans declined 10 percent in 1980 to about 213,000 tons. Lentil production in 1980 fell below 10,000 tons—less than half the 1975-77 level—and Egypt may become the world's leading importer of lentils in 1981.

In 1980, fruit production increased about 13 percent to a record 2.4 million tons. Orange output rose 13.5 percent to 1.16 million tons and grape production reached a peak of 280,000 tons. Great emphasis is being placed on increasing vegetable production. Tomatoes account for about one-third of Egypt's vegetable production, estimated at about 9 million tons in 1980. Vegetable production is expected to reach 10 million tons in 1981, including possibly 3 million tons of tomatoes—up from 2.57 million tons in 1980. Production of potatoes reached 1.2 million tons in 1980 and could rise to about 1.3 million tons in 1981.

Agricultural Policy

The main objectives of Egypt's agricultural policy are to improve the diet of the average citizen, maintain low food prices, and prevent hunger. If much larger imports are necessary to achieve these goals, little opposition is likely from farmers.

Egypt imported about 5 percent of its food supply in the late 1950's, but in 1981 the proportion is likely to be in the vicinity of 50 percent for all food, including over 75 percent of the wheat, nearly half of the sugar, over 70 percent of the cooking oil, and about one-third of the meat. Egypt is self-sufficient in rice, tomatoes, potatoes, and most vegetables.

Low prices for basic foods have been maintained in cities since 1965. The price of balady bread was increased from 5 cents per kilo in January 1980 to 11 cents per kilo in February 1980. Bread is sold at the low price free of any ration, but subsidized sales of rice, sugar, cooking oil, and tea are rationed. Extra supplies can be purchased for higher prices.

Historically, low urban food prices were based on policies which set low farm prices and generated revenue from agricultural exports to fund domestic food subsidies. Producer support prices are usually far below world market prices, and the difference goes to the government firms which are monopoly exporters of 20 of the leading agricultural export commodities. This means that high world prices are not much benefit to the average Egyptian farmer. Some considerable gains in farm support prices were announced in 1980 and early 1981. Changes in the official value of Egypt's currency and the great influx of cash into the countryside because of high wages received by construction workers migrating to Saudi Arabia, UAE, Kuwait, and other countries contributed to the change in support prices.

Consumer prices are set by the General Authority for the Supply of Commodities (GASC) of the Ministry of Supply. The co-ops managed by private individuals get their supplies from GASC and agree to sell them for a fixed price. Subsidized prices for fertilizer and other inputs contributed to greater efforts by farmers to maximize yields. Prices for inputs are set by the Ministry of Agriculture and farmers obtain most of their supplies from government-sponsored cooperatives.

An atmosphere of freedom exists today in Egypt's business, private foreign trade activities, banking, movement to jobs, and property ownership. During the 1960's, private enterprise was harshly suppressed and over 72 percent of the industrial output came from nationalized firms. While the public sector remains by far dominant, many small private firms have recently been established.

Agricultural Trade

Egypt's total imports increased about 20 percent in 1980 to approximately $9 billion, with agricultural commodities accounting for slightly more than one-third. A building boom contributed to larger imports of wood, cement, and household fixtures. A relaxation of foreign exchange restrictions precipitated a rise in imports of many consumer goods, particularly books, electrical appliances, and pharmaceuticals. Total exports increased nearly $1 billion in 1980 to $2.8 billion, after remaining relatively stable for 3 years at under $1.8 billion. Petroleum exports soared to nearly $2 billion in 1980, and cotton exports also increased. Financial inflows from remittances, the Suez Canal, the Sumed petroleum pipeline, and tourism were in the vicinity of $3.5 billion. Economic aid from developed countries and the World Bank provided financing for about $1.5 billion of the imports. Egypt's trade deficit reached $6 billion in 1980. Yet the balance of payments showed a surplus of about $1 billion because of the large income from services and inflow of funds for investments. Foreign exchange reserves in December were $1.5 billion, triple the level a year earlier.

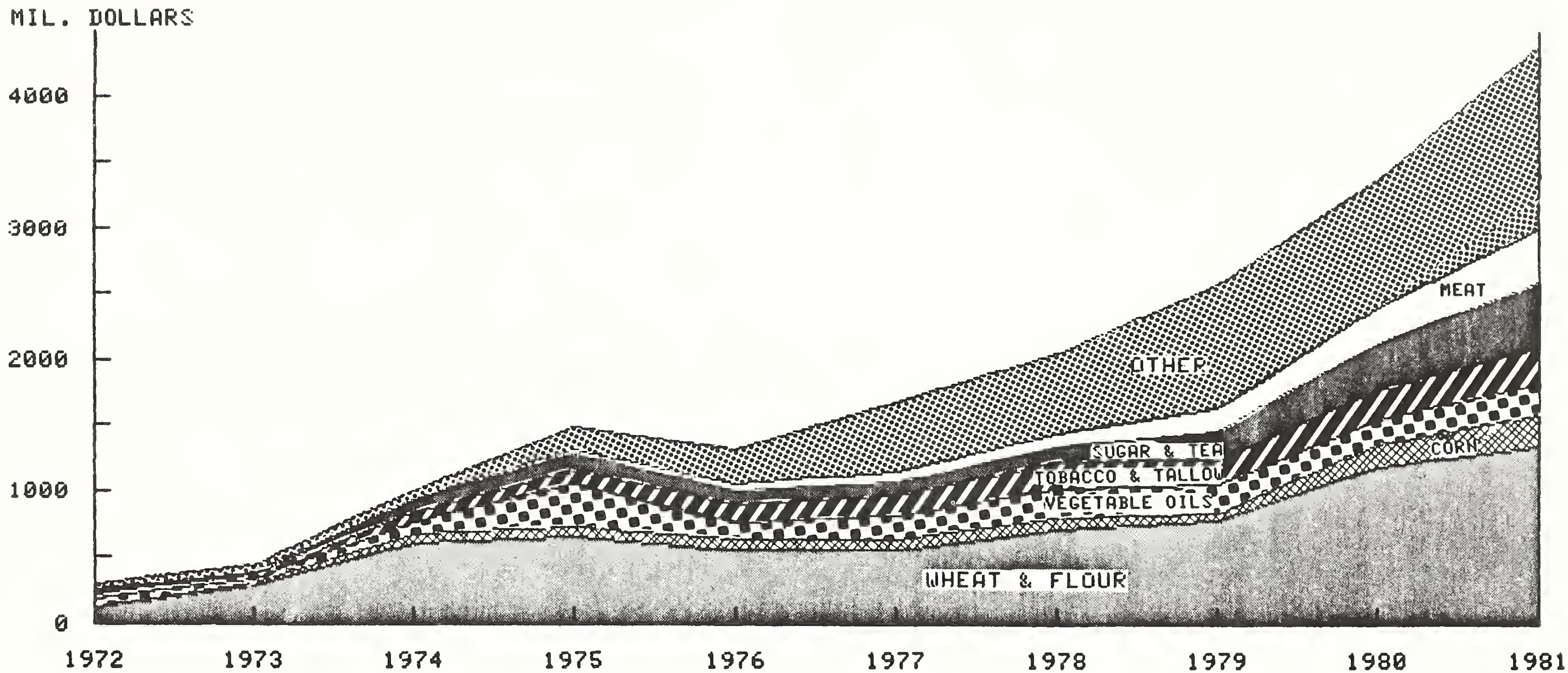
Agricultural imports by Egypt reached $3.4 billion in 1980, nearly one-third above the 1979 value and about ten times the 1971-73 average. The commodity mix continued to become more diversified. For example, wheat and flour accounted for 55 percent of Egypt's agricultural imports in 1973, in contrast to only 31 percent in 1980.

The stagnant production of meat and milk in Egypt, combined with a higher-protein diet, has contributed to the recent boom in imports of beef, frozen poultry, eggs, milk, and butter. Efforts to bolster local output of meat, milk, and eggs led to a 91-percent rise in corn imports in 1980. The United States provided all of the 944,000 tons of corn imported by Egypt in 1980. Programs to boost local output of soybean meal were far below requirements of poultry and cattle feedlots. The decline in imports of oil cake and meal feed from a peak of 53,000 tons in 1978 to less than 15,000 tons annually in 1979 and 1980 led to severe meat shortages, and caused President Sadat to ban sales of local beef and mutton during September 1980.

Egypt's meat imports gained momentum in 1980 with the dramatic increase in per capita income and because subsidies kept prices for some items fixed attractively

Chart 6

EGYPT'S IMPORTS OF FARM PRODUCTS, ANNUAL 1972-81



low. Favorable financing from the United States sparked a major increase in imports of poultry meat. Shipments to Egypt reached 48,000 tons valued at $48 million in 1980, triple the 1979 level. Egypt became the leading market for U.S. sales of turkey parts. Egypt's total imports of frozen poultry rose to over 70,000 tons in 1980 as arrivals from the EC, Brazil, and Eastern Europe also increased. Egyptian purchases of over 65,000 tons of beef in the EC caused imports of red meat to reach 112,000 tons in 1980, nearly double the 1979 level.

Imports of dry and evaporated milk rose to about 30,000 tons because of attractive EC export subsidies. Imports of butter continued to rise. Combined imports of butter and butter oil reached 40,000 tons valued at about $100 million in 1980. Imports of cheese rose to about 20,000 tons in 1980, double the 1977 level. EC, Switzerland, and New Zealand were major suppliers.

The Ministry of Supply still handles over 70 percent of Egypt's food imports through its food purchasing agency GASC. The Ministry of Economy is responsible for imports of tobacco, tallow, and some other items used in Egyptian factories. Imports of some items by private traders have increased recently, particularly apples, beef, snack foods, and specialty items for the international tourist hotels. The elimination of import duties for many food items bolstered private trade this year.

Egypt has diversified not only the commodities it imports but also the sources. The U.S. share of imports decreased from 32.3 percent in 1977 to about 23 percent in 1980. Our share may fall to 22 percent in 1981, despite larger deliveries of wheat, corn, tobacco, and frozen poultry, because of much larger EC deliveries of wheat and livestock products. Agricultural imports from the EC were estimated at $1 billion in 1980, up from $600 million in 1979.

U.S. agricultural exports to Egypt increased 28 percent in 1980 to $770 million, up from $601 million in 1979. Shipments of 1.4 million tons of wheat and flour occurred under Title I, P.L. 480, and 100,000 tons under Title III, P.L. 480. About 70 percent of our 1980 agricultural exports to Egypt moved under U.S. Government financing, 38 percent under P.L. 480 and 32 percent under Commodity Import Program, Agency for International Development loans. CIP loans contributed to a rebound in U.S. sales of tobacco and to the remarkable growth in sales of frozen chickens. CIP financing for our exports of corn and vegetable oils to Egypt also increased.

Total U.S. exports to Egypt increased 30 percent in 1980 to $1.87 billion, and agricultural items accounted for 41 percent. While our imports from Egypt increased 20 percent to $459 million, petroleum accounted for over 95 percent.

Outlook

U.S. agricultural exports to Egypt should increase more than 50 percent in value during 1981. Corn exports might rise by more than 30 percent to $200 million. Further gains are expected in U.S. shipments of poultry meat, particularly turkey parts. Our exports of lentils reached $7 million in 1980 and the value may rise to over $20 million in 1981. New sales of other pulses are likely. Strong gains are expected in tallow and tobacco.

The outlook for U.S. exports of wheat and flour to Egypt is uncertain because of large sales recently made by France and Australia. France is likely to remain the leading supplier, with deliveries of about 3 million tons. U.S. wheat shipments of 1.5 million tons have already been scheduled for Egypt under P.L. 480 during 1981. Current estimates indicate that Egypt might buy 500,000 to 800,000 tons of wheat in the United States through other methods of financing.

A strong growth in U.S. sales of cottonseed oil, possibly to 200,000 tons, is expected in 1981, plus considerable gains for soybean and sunflower oil. A resumption of U.S. exports of soybeans and soybean meal is likely because of the rising shortage of animal feed. Sales of U.S. eggs, apples, canned foods, dry milk, butter, cheese, almonds, and canned peaches could occur in 1981. Changes in the tariff structure for the private importers may open the door to new sales.

The outlook for Egypt's agricultural production in 1981 is fair because further gains are anticipated for corn, oranges, and vegetables. After marked strides, cotton yields may have reached a plateau, and it is likely that only small gains in cotton output will occur in 1981. Much larger imports of animal feed and corn will be necessary to meet the planned gains in local output of poultry meat to about 150,000 tons.

Egypt's total exports are expected to rise to nearly $5 billion in 1981, including about $4.2 billion for petroleum. Output of crude petroleum recently increased to about 650,000 barrels per day, making Egypt's volume nearly half the current level recorded for Iran. The value for cotton exports should again exceed $500 million, but smaller exports of rice and oranges may keep exports of farm products below $700 million. Egypt's agricultural imports may reach $4.5-$5.0 billion in 1981, with over one-third of the supplies coming from the EC and possibly one-fourth from the United States. (John B. Parker)

Libya

The Economy

In 1980, the GNP reached $30 billion, compared to $25 billion in 1979. Per capita GNP exceeded $10,000. Petroleum production was 654 million barrels, a 13-percent decline from the 1979 output, yet a price increase to $41 per barrel caused petroleum earnings to go up anyway. Industrial growth has been rapid, but considerably less than the 30 percent targeted in the 1976-80 plan. Manufacturing now accounts for 5 percent of the national product and employs 10 percent of the labor force. At present, industrial activity centers on processing oil and gas. Although petroleum revenues have provided virtually all funds for investment and social services, the petroleum sector's share of real GNP declined to about 50 percent in 1980 because of high growth rates in other sectors, especially electricity, manufacturing, health, and education.

Agricultural Production

Agriculture still provides a livelihood for half of the population, although it contributes only 2 percent to GNP. Agricultural production increased by 14 percent in 1980, compared to an average growth of 7 percent from 1975 to 1979. Rainfall was favorable for the wheat and barley crops, while the drought in 1977 depressed the 1975-79 average. Despite the $4 billion spent on agricultural development between 1975 and 1980, growth in the agricultural sector has never equaled the 27-percent growth of manufacturing and the 23-percent growth of the electricity, gas, and water sector. Much of the $4 billion has been invested in large projects that take time to come into production.

Little information is available on the results of the land reclamation program, which covers 1.6 million hectares. Most of this land is in the north, 510,000 hectares in the area of Al Jafarah Plain and 523,000 hectares in the Green Mountain area (Al Jabal al Akhdar). Other areas include 422,000 hectares in the Al Khader and Al Salul areas, 97,000 hectares at Kufrah and Sarir, and 37,000 hectares in Fezzan. All this new land will more than recoup the losses in the western coastal belt, where depletion of the ground water supply has resulted in encroachment by salt water and a substantial drop in the production of citrus and tomatoes. Farm labor is in extremely short supply despite the use of workers from other countries. To solve this problem, mechanization has been encouraged; the Government has sold machines and other inputs at one-half of cost.

Agricultural Policy

Libya's long-term policy goal is to achieve self-sufficiency in food production, especially in poultry, dairy products, vegetables, and fruits. After the eventual decline of petroleum production, agriculture is expected to be an important part of a viable economy, but self-sufficiency in grain is not possible. Incentives and assistance to farmers include: grants after harvest failures, low-cost loans, construction of farm housing and infrastructure, subsidized farm inputs, and high price supports for farm products. Agricultural policy is indirectly affected by the current economic applications of Jamahiriya principles*. One of these principles is that land is no person's property. Everyone has the right to use it and benefit from it by working or pasturing it. Private businesses are being taken over and managed by workers through people's committees. Private stores are being replaced by large supermarkets run by people's committees. All managerial authority is to reside in the people's committees; the workers in all enterprises are to become partners, not wage earners. As of early 1981 little information on the outcome of this experiment in participatory democracy was available.

*Jamahiriya is an Arabic word coined by the Libyan regime to indicate a state of mass political participation beyond that connoted by the word "republic."

Consumer subsidies cost the Government $237 million in 1979. Among major subsidized foods are wheat flour, semolina, macaroni, sugar, rice, olive oil, and meat.

Agricultural Trade

In 1980, Libya's exports, virtually all petroleum and products, were valued at $20 billion, a 25-percent increase over 1979. The United States purchased more than a third of the total. Italy, Germany, and France took most of the rest. Imports were valued at about $8 billion, with agricultural commodities accounting for about $1 billion. These included animal feeds, wheat and flour, barley, cattle and sheep for slaughter, tobacco, sugar, rice, oilseed cake, olive oil, dairy products, and canned fruit. The European Community was the major supplier. U.S. agricultural exports were $14.6 million in 1980. Main items were wheat, parboiled rice, vegetable seeds, and tobacco. Libya's purchase of 16,000 tons of wheat from the United States was the first in recent years.

Outlook

Libya's population of 3 million, increasing 3.5 percent annually, will require increasing food imports. It is unlikely that increasing domestic farm production will satisfy more than a part of the demand generated by one of the highest per capita incomes in the world. (Herbert H. Steiner)

Morocco

The Economy

Considering the current world economic situation and the high cost of the conflict in the Sahara, Morocco's economy performed fairly well in 1980. After 2 years of slower growth, real GDP increased by more than 6 percent. Agriculture, fisheries, manufacturing, handicrafts, and government services all increased. A drop in public investment caused a slight decline in construction and public works. However, investment in the private sector increased. The output of phosphoric acid and other phosphate products increased, but phosphate rock production stagnated, and exports of the rock declined because of competition from the United States after the cutoff of rock exports to the Soviet Union. Nevertheless, the value of exports increased more than 30 percent because of higher prices.

The 1981 operating budget of the Moroccan Government is expected to have a deficit of $750 million, largely because of a 13-percent increase in military spending, which now accounts for 40 percent of the budget.

Agricultural Production

Agricultural production was up about 4 percent, mainly because of a better wheat and barley harvest. However, the official estimate of a 17-percent increase in the barley harvest is disputed because dry weather in the south early in 1980 made the 2.2 million ton production

improbable. Wheat and barley output are difficult to estimate because 60 to 70 percent of production is consumed on the farm.

Oilseeds are minor crops in Morocco. Despite price supports, the gap between domestic vegetable oil production and consumption continues to widen, because other crops are more profitable. Peanuts are an exception because they have become a profitable crop on the sandy soils of the lower Lukkos Valley, where they are grown exclusively for food. Sunflower seed production was down 78 percent in 1980 because of reduced acreage and poorly distributed rainfall. In the face of this decline, the Government decided to reinstitute financial and technical assistance to producers, after ending this policy in 1979. Cotton plantings increased by 56 percent, but shortages of irrigation water held the production increase of cottonseed to 40 percent.

Citrus production in the 1979/80 season topped 1 million tons for the second time, but was slightly lower than the record 1977/78 crop. Citrus production is beginning to shift away from the traditional growing areas in the Gharb Plain to newer areas around the Souss Valley, Beni-Mellal, and Marrakech. This southern fruit reaches European markets earlier, is easier to sell, and gets a higher price than fruit from the traditional areas.

Restrictive measures by the EC have reduced the market for both fresh and processed tomatoes. As a result the decline in tomato production continues. Wine production exceeded 1 million hectoliters for the second year in a row. This much wine may be difficult to sell because of limited export markets and small domestic consumption. Sugar beet production showed no signficant change, but sugarcane increased by 30 percent. Sugar production of about 340,000 tons was a little more than half of consumption.

Good pasture conditions contributed to a recovery in livestock numbers, which were reduced by the 1977 drought. Beef and mutton production increased moderately. Poultry output is increasing at about 10 percent annually. Almost all of this growth is from modern, large-scale production.

Agricultural Policy

During the 1960's and 1970's, Morocco concentrated a major share of agricultural investment on the construction of dams and irrigation systems. About 95 percent of the irrigation projects included in the 1973-77 plan have been completed. Following the completion of the irrigation systems dependent on the recently inaugurated dams at Oued Al Makhanzine and Al Massira, 600,000 hectares will be under irrigation, or about 9 percent of total cultivated area. The irrigated land produces 350,000 tons of sugar and most of the citrus, cotton, and vegetable crops. Wheat and barley take up about 70 percent of the rainfed land. Production has not kept up with increasing consumption of wheat, which supplies more than 50 percent of the calories in the food balance. Wheat and barley average about 1,000 kilograms per hectare, far below the potential. Demonstration plots under field conditions in diverse regions in Morocco have yields from 2,500 to 3,500 kilograms of wheat.

The forthcoming 1981-85 development plan will attempt to increase cereal production by focusing on the development of the rainfed zones. Investment will be in quick-yielding integrated projects that will provide farmers with a wide range of assistance, including extension services, subsidized fertilizer, seed, tractors, technical training, and credit. More resources will also be allocated to livestock production, including increased imports of breeding stock, construction of feedlots, and establishment of centers for milk collection.

Price policy includes subsidies for both producer and consumer. The wheat price was increased from $275 per metric ton in 1979/80 to $329 in 1980/81. Fertilizer sold to farmers is subsidized. Sugar beet, sugarcane, and cotton prices were raised by 17 percent and sunflower seed by 42 percent. The consumer subsidies on milk, butter, and certain petroleum products were eliminated during 1980. Those on sugar, edible oil, and flour were reduced. Nevertheless, the total cost of subsidies rose to about $340 million, compared to $146 million in 1979.

Agricultural Trade

In 1980, commodity exports were valued at about $2.4 billion; phosphate rock products accounted for $990 million. The diversion of U.S. phosphate exports from the Soviet market to the rest of the world and the reduction in exports to Poland and Iran reduced the Moroccan volume. However, earnings were up by 36 percent to $750 million, reflecting a 49-percent price hike.

Agricultural exports, estimated at $550 million in 1980, showed little change from 1979. Morocco exported about 650,000 tons of citrus valued at $240 million. This was Morocco's most important agricultural export. Principal destinations were the EC and the Soviet Union. Tomato exports declined precipitously because of import restrictions by the EC. Exports of other canned and fresh vegetables, fruit and vegetable juices, dried fruit, and nuts all declined. The largest export increase was for olive oil, which after a 2-year hiatus in 1978 and 1979 soared to 24,000 tons valued at $26 million. The volume of pulse exports declined by 20 percent, but the value almost doubled.

Imports were valued at $4.2 billion, leaving a trade deficit of $1.8 billion. Agricultural items cost approximately $920 million. The principal import was wheat, an estimated 1.7 million tons valued at $340 million. Other major items were 300,000 tons of sugar and 150,000 tons of vegetable oil. Morocco also imported 38,500 tons of oilseeds (largely soybeans), 150,000 tons of coarse grains, and significant quantities of milk, butter, tea, tobacco, coffee, wool, cotton, seed potatoes, tallow, pepper, and seeds for sowing.

In 1980, the United States exported 524,221 tons of wheat and flour valued at $91 million. Other U.S. agricultural exports to Morocco were corn, cotton, tobacco, tallow, and soybeans. U.S. agricultural imports from Morocco were olives, capers, frozen and dehydrated vegetables, pulses, wine, spices, and essential oils.

Outlook

The drought in the winter of 1980/81 will cut 1981 wheat and barley output by as much as 50 percent. Grain import requirements are expected to be near 3.5 million tons. This will be a heavy burden on Morocco's balance of payments. Three factors in Morocco's economic outlook are significant causes for concern:

- Any significant escalation of the Saharan conflict, with its great cost, would force the Government to reduce imports, increase taxes, and perhaps ration energy.
- The Moroccan economy has to grow at least 6 percent to provide jobs for the labor force, which is increasing at a rate of 3 percent per year.
- Morocco depends heavily on imports. Exports cover only about 50 percent of import costs. More than $1 billion goes for energy imports. Morocco has large deposits of oil shale but these are not likely to supply its petroleum needs for some time. (Herbert H. Steiner)

Tunisia

The Economy

For a country with limited natural resources, Tunisia has had remarkable economic development. Real GNP more than doubled between 1970 and 1979. Growth in 1980 was not as high as earlier in the decade because of the worldwide economic crisis, but it reached 7 percent. Manufacturing and agriculture were the main growth sectors in 1980. The excellent performance of the agricultural sector was due to favorable weather. Oil production, construction, and public works showed little increase. Investment totaled $2.3 billion, about the same as in 1979; 86 percent was financed through national savings, which represented 24 percent of GDP. Inflows of $338 million in foreign capital increased foreign exchange reserves to almost $500 million. Foreign debt totaled $3.2 billion, about 37 percent of GDP. Only 43,000 jobs were created in the nonagricultural sectors, well short of the 57,000 needed. Unemployment increased as employment opportunities decreased in France and Libya.

Agricultural Production

A near-record wheat and barley crop of 1.2 million tons in 1980 raised the index of agricultural production to 173 (1969-71=100), a 6.1-percent increase over 1979. Relatively minor variations in the timing and distribution of rainfall in Tunisia often cause great fluctuations in dryland grain production. Wheat supplies over 50 percent of both the calories and the protein in the diet. It accounts for about 75 percent of grain production, with barley constituting almost all the rest. In 1980, 1.1 million hectares were planted in wheat, 90 percent in durum. The yield, slightly over 1,000 kilograms per hectare, was well above the previous 5-year average of 738 kilograms. Barley yields were even better at 918 kilograms per hectare, compared to an average yield of 500-600 kilograms. Four hundred thousand hectares of the cereal land are in fallow annually. Olives are the main cash crop. Production in 1980 from about 40 million olive trees, covering about 1.2 million hectares in east central Tunisia, was down for the third year in a row. Olive oil output has not topped 100,000 tons since 1977. This may be because the incentives for new plantations have been discontinued. In addition, sheep raising has become more profitable in the marginal olive regions and the seasonal labor required to pick olives has become harder to get.

Agricultural Policy

Tunisia's agricultural policy aims are to make food available to the entire population at affordable prices, and to produce as much as possible domestically. Agriculture is the absolute priority. Rural life must be made more attractive to young people. Price controls have been gradually removed. Wheat prices were increased by $25 per ton in September 1980 to coincide with the seeding time for the 1981 crop. This brought the farm price for durum to $215 per ton, and for soft wheat to $200, compared with an average c.i.f. price of $238 per ton for imported U.S. hard wheat and $181 per ton for European soft wheat.

Tunisia has adequate land resources and a comparative advantage in hard wheat production, yet a substantial part of the trade deficit is due to wheat imports. Therefore the cereal program has top priority. Emphasis is on the introduction of leguminous forage crops in the rotation, to bring beef and sheep into the new cereals production system. Since the primary constraint on small cereal farmers is lack of credit, a project to deliver a package of supervised credit, technical information, and farm management education to them has been established in the northern region in cooperation with USAID. Basic foods such as cereals, vegetable oil, meat, sugar, and coffee, as well as the nonfood items such as cement and kerosene, continue to be subsidized. Consumer prices for these items remain clearly below cost. The deficit in the subsidy fund stood at $305 million in 1980. The prime minister stated that prices would not be raised on the subsidized foods; instead he proposed to finance the deficit through a 15-20 year treasury loan.

A new $250 million investment bank is to be established to help finance projects for the 1982-86 development plan. This will be the beginning of $20 billion in new investments to transform Tunisia into a developed industrial nation by the year 2000.

Agricultural Trade

Tunisia's exports were estimated at $2.2-$2.3 billion for 1980, 28 percent above 1979. The increase was due to higher petroleum and phosphate prices. Imports rose by only 14 percent to about $3.3-$3.4 billion. Agricultural exports were valued at $200 million, olive oil accounting for over 50 percent. Other important exports were wine, citrus, dates, and vegetables. Agricultural imports were valued at $428 million. Imports of wheat, barley, and corn accounted for $212 million. U.S. agricultural exports

to Tunisia were just below $101 million in 1980, up 60 percent from 1979.

Outlook

Normal rainfall during the 1980-81 growing season augurs well for another excellent wheat and barley crop in 1981. An increase in area planted in the north because of higher prices could, together with better yields, bring cereal production well above 1980's 1.2 million tons. An upward movement in the olive production cycle is also expected. The 1982-86 development plan will lay out in detail the strategy for making Tunisia's agricultural production come closer to its potential. (Herbert H. Steiner)

The Sahel

With the exception of Niger, the Sahelian countries experienced a difficult year in 1980.* Agricultural production fell because of poor weather conditions throughout the region, and per capita food production declined as a result. An estimated 387,000 tons of food aid will be necessary to help dampen the effects of the production shortfall. Petroleum price increases consumed higher proportions of import expenditures, pushing up trade deficits in all cases. Government budgetary deficits also rose as revenues failed to keep pace with expenditures.

If rainfall is adequate during the present growing season, agricultural production in the Sahel should be above the 1980 level. However, with population increasing at 2.0 to 2.8 percent and food production increasing by less than 1 percent, the food gap will increase. The abundance of agronomic, policy, and macroeconomic problems will likely mean a less-than-promising year in 1981, with few bright spots in agricultural performance. Under these conditions, food aid will be essential. Continued inflation, petroleum price increases, and increasingly expensive government operations will absorb growing amounts of money, leaving less for investment in agriculture. Foreign assistance in agricultural investment will need to be continued.

Niger was the prominent exception to the overall poor agricultural year in the region. Ample and timely rainfall, mostly in the southern region, boosted millet and sorghum output to 1.7 million tons, a 13-percent increase over 1979's respectable crop. The bumper millet crop of 1.3 million tons resulted from a 7-percent increase in area planted, as well as from the adequate moisture. Production of cow peas also increased. Much of the millet and most of the cow peas did not remain in Niger, however, but were traded illegally to Nigeria, where demand was high because of a poor harvest. Prices for both crops were very favorable. It is not certain how much was traded, but indications are that Niger may have insufficient grain to feed its population in some regions of the country; thus food imports may be necessary to offset the shortfalls. Peanut production declined because peanuts are losing favor as a cash crop.

Niger's economic position continued strong, relative to its neighbors. It is the world's fourth largest uranium producer, with annual exports at 4,000 tons, but a softening of the world uranium price has reduced earnings. This decline may delay investment in new mines and future uranium production, as well as reduce government revenues. (Michael A. Cullen)

*Including Chad, the Gambia, Mali, Mauritania and Upper Volta. Senegal is discussed separately.

Cameroon

The Economy

Modest economic growth occurred in Cameroon during 1979. Real GDP grew at about 6 percent and per capita GDP in constant 1974 terms grew at about 3 percent. Inflation continues at between 15 and 20 percent, manageable by African standards. Improved earnings from petroleum exports accounted for the growth and helped narrow the trade deficit by $126 million. Petroleum production is expected to reach at least 50,000 barrels per day, possibly 60,000 this year. When a new refinery comes on line towards the end of the year, Cameroon is expected to be nearly self-sufficient in petroleum products.

Agricultural Production

Production of most food crops remained at the 1979 level or increased slightly. Corn, rice, and millet are staples in the diet, and improving their production is essential. However, for the most part they are grown in the drier regions of the north and must be shipped to the population centers in the south. The lack of marketing coordination has hindered production improvements and weather conditions are more precarious in the north than elsewhere in the country. In addition, development policy has paid less attention to the northern region than elsewhere so farmers have benefited from few production innovations.

Cameroon, the world's fifth largest cocoa producer, depends on earnings from cocoa exports. Cocoa production for 1980/81 is estimated at 114,000 tons, a 2-percent decrease from the previous year. Unusually heavy rains in the late summer increased incidence of black pod disease, reducing productivity. Although government policies strongly support cocoa, they have been unable to prevent the production decline, which is expected to continue next year.

Coffee production showed a similar decline in 1980/81. Although prices are guaranteed and inputs are provided, production is expected to continue to decline.

Agricultural Policy

Over the past decade, the agricultural sector has grown at a rate of 3.7 percent a year while the entire economy has grown at 5.1 percent a year. Government policies are aimed at improving production by offering

Table 6. The United States: total agricultural exports to sub-Saharan Africa, by value for selected items, annual 1979, 1980

Destination	Total agricultural 1979	Total agricultural 1980	Wheat 1979	Wheat 1980	Wheat flour 1979	Wheat flour 1980	Corn 1979	Corn 1980
	1,000 dollars							
Angola	22,621	21,344	---	3,728	---	---	---	503
Benin	6,468	6,713	---	990	---	---	---	916
Botswana	3,522	3,162	---	---	---	---	---	---
Burundi	1,416	1,940	---	---	253	471	---	---
Cameroon	8,913	6,293	---	58	---	207	---	71
Chad	2,177	1,052	---	---	---	---	---	---
Congo (Brazzaville)	3,107	2,366	---	---	417	456	---	---
Djibouti	5,810	8,814	---	---	---	---	---	---
Ethiopia	18,208	21,858	9,825	10,954	---	---	2,970	---
Gambia	1,521	1,262	---	---	40	---	---	---
Ghana	23,574	26,661	4,227	2,145	11	---	596	6,243
Guinea	8,587	9,934	---	---	1,691	---	---	38
Ivory Coast	22,079	28,102	8,277	19,990	---	47	---	---
Kenya	2,870	36,236	---	11,262	46	80	---	13,191
Lesotho	4,651	6,431	---	1,160	597	544	---	---
Liberia	25,460	32,720	3,043	3,333	65	25	---	103
Madagascar	4,791	1,698	---	---	---	---	---	---
Malawi	591	465	---	---	---	8	177	---
Mali	916	1,154	---	---	---	---	---	---
Mauritania	1,936	6,138	---	2,952	31	---	---	---
Mauritius	7,854	11,306	---	---	---	1,576	---	---
Mozambique	15,951	14,400	2,197	9,795	13	---	5,888	2,829
Niger	2,212	2,757	---	---	53	49	---	4
Nigeria	211,634	348,150	145,026	180,068	581	547	8,719	23,716
Rwanda	1,890	2,092	---	---	207	225	---	---
Senegal	8,415	20,703	---	---	25	---	---	---
Sierre Leone	7,012	5,489	3,784	2,661	2	2	---	228
Somalia	20,819	44,725	---	---	4,140	5,393	2,680	16,326
South Africa	99,072	109,755	2,020	---	50	125	352	518
Sudan	51,711	65,748	44,473	36,480	5,661	21,355	---	---
Tanzania	2,819	37,817	1,199	---	138	---	---	29,559
Togo	8,997	6,743	1,265	2,620	---	---	40	66
Uganda	173	8,971	---	---	---	---	---	1,071
Upper Volta	8,607	9,110	50	---	22	24	---	---
Zaire	45,434	43,834	25,619	27,096	1,092	1,679	---	---
Zambia	14,072	19,567	2,269	---	---	---	1,392	13,153
Zimbabwe	5	2,981	---	---	---	---	---	2,484
Total agricultural	675,895	988,491	213,364	316,092	15,124	32,813	22,814	111,645
Grand total	3,547,300	5,618,300						

--Continued

Source: Bureau of the Census

Continued

Table 6. The United States: total agricultural exports to sub-Saharan Africa, by value for selected items, annual 1979, 1980

Destination	Rice		Inedible tallow		Soybean oil	
	1979	1980	1979	1980	1979	1980
	1,000 dollars					
Angola	63	113	3,249	1,576	104	33
Benin	9	212	---	---	315	---
Botswana	---	---	---	---	505	369
Burundi	---	---	---	---	342	488
Cameroon	1,771	284	2,076	1,140	449	506
Chad	249	1,011	---	---	---	---
Congo (Brazzaville)	1,629	997	---	---	276	105
Djibouti	5,327	7,394	---	---	---	521
Ethiopia	13	11	---	---	1,274	811
Gambia	448	51	---	---	127	---
Ghana	2,845	3,859	3,741	2,154	1,438	823
Guinea	4,021	7,538	---	---	1,537	---
Ivory Coast	10,013	2,604	1,010	335	91	943
Kenya	14	5,384	257	490	525	1,800
Lesotho	---	---	---	---	1,037	510
Liberia	16,450	24,805	---	---	154	334
Madagascâr	699	---	2,783	1,428	334	---
Malawi	323	123	---	---	---	---
Mali	600	801	---	---	---	---
Mauritania	1,342	---	---	---	---	---
Mauritius	3,630	2,617	735	---	1,293	5,437
Mozambique	5,671	---	402	---	900	716
Niger	818	9	---	---	10	94
Nigeria	20,073	92,148	18,949	20,021	78	547
Rwanda	168	533	---	---	540	346
Senegal	652	7,294	820	1,453	---	119
Sierre Leone	1,116	1,020	---	---	253	497
Somalia	6,420	6,309	---	---	6,702	11,612
South Africa	43,847	46,101	21,977	16,473	592	1,700
Sudan	12	---	260	5,107		
Tanzania	8	5,003	---	---	393	792
Togo	1,184	672	---	---	1,048	77
Uganda	---	---			---	2,872
Upper Volta	1,342	1,100	---	---	1,877	877
Zaire	7,148	9,915	---	---	487	---
Zambia	1,299	5,864	---	---	36	---
Zimbabwe	---	---	---	330	---	---
Total Agricultural	139,084	233,792	56,259	50,507	22,718	32,329

Source: Bureau of the Census

Table 7. The United States: agricultural exports to sub-Saharan Africa, by quantity for selected items, 1979, 1980

Destination	Wheat		Wheat flour		Corn		Rice		Inedible tallow		Soybean oil	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
	Metric tons											
Angola	---	21,025	---	---	---	2,845	197	309	4,811	2,862	150	43
Benin	---	5,871	---	---	---	7,320	18	256	---	---	340	---
Botswana	---	---	---	---	---	---	---	---	---	---	533	400
Burundi	---	---	1,534	2,608	---	---	---	---	---	---	598	625
Cameroon	---	285	---	1,246	---	476	4,441	346	3,596	1,961	506	595
Chad	---	---	---	---	---	---	607	1,947	---	---	---	---
Congo	---	---	2,451	2,460	---	---	4,654	2,514	---	---	295	121
Djibouti	---	---	---	---	---	---	11,087	15,644	---	---	---	580
Ethiopia	66,102	68,722	---	---	21,999	---	23	14	---	---	1,370	1,022
Gambia	---	---	204	---	---	---	1,522	43	---	---	143	---
Ghana	31,633	13,500	49	---	4,772	37,753	7,707	9,605	6,496	4,982	1,576	855
Guinea	---	---	9,975	---	---	251	11,054	18,475	---	---	1,904	---
Ivory Coast	49,308	108,786	---	261	---	---					100	1,086
Kenya	---	71,116	291	434	---	74,153	26	13,132	397	1,000	594	2,152
Lesotho	---	7,000	3,693	3,267	---	---	---	---	---	---	1,181	583
Liberia	17,858	17,686	431	281	---	750	55,331	65,142	---	---	136	384
Madagascar	---	---	---	---	---	---	2,321	---	4,967	2,995	338	---
Malawi	---	---	---	44	1,140	---	976	301	---	---	---	---
Mali	---	---	---	---	---	---	600	801	---	---	---	---
Mauritania	---	16,260	186	---	---	---	6,580	---	---	---	---	---
Mauritius	---	---	---	6,086	---	---	13,168	3,840	1,500	---	2,099	9,397
Mozambique	12,912	56,278	74	---	39,017	19,636	17,450	---	688	---	1,021	816
Niger	---	---	278	272	---	23	1,771	18	---	---	10	118
Nigeria	924,002	993,249	3,631	8,534	59,743	161,731	42,652	190,059	31,472	38,986	79	530
Rwanda	---	---	1,256	1,234	---	---	519	1,455	---	---	617	436
Senegal	---	---	149	---	---	---	1,721	19,058	1,476	3,050	---	162
Sierre Leone	23,244	15,313	7	12	---	1,698	5,016	2,544	---	---	262	562
Somalia	---	---	22,155	28,090	22,486	104,610	20,317	17,538	---	---	6,991	14,412
South Africa	11,285	---	363	734	2,236	3,334	96,203	104,984	41,010	35,047	593	2,078
Sudan	262,012	205,780	38,238	112,146	---	---	28	---	374	8,499		
Tanzania	7,000	---	806	---	---	215,696	18	11,891	---	---	426	894
Togo	7,816	11,199	---	---	501	1,013	2,697	1,114	---	---	1,145	98
Uganda	---	---	---	---	---	11,551	---	---	---	---	2,014	1,032
Upper Volta	228	---	124	130	---	---	4,566	2,890	---	---	2,014	1,032
Zaire	149,431	146,185	6,107	9,644	---	---	24,676	23,025	---	---	541	---
Zambia	12,678	---	---	---	10,439	90,118	3,652	14,196	---	---	6,700	---
Zimbabwe	---	---	---	---	---	14,618	---	---	---	620	---	---
Total	1,575,509	1,758,205	92,022	177,420	162,333	747,576	341,598	641,141	96,787	100,002	32,685	43,091

Source: Bureau of the Census

Table 8. The United States: agricultural imports from sub-Saharan Africa, by value, for selected items, annual 1979, 1980

Destination	Total agricultural		Coffee		Sugar		Cocoa beans		Rubber, crude		Cocoa, cocoa cake, cocoa butter	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
	1,000 dollars											
Angola	6,972	25,623	6,697	25,623								
Benin	1	13										
Botswana	15	---										
Burundi	36,260	39,794	36,260	39,794								
Cameroon	49,464	63,237	32,528	41,554	---	---	---	7,021			12,064	10,036
Chad	45	---							45	---		
Comoros	3,297	3,217										
Congo	---	2,949		108		2,841						
Ethiopia	108,765	86,442	104,897	83,736								
Gambia	---	---										
Ghana	63,050	40,505					62,396	38,504	---	1,553	649	---
Guinea	222	1,251	164	1,233								
Ivory Coast	350,899	274,771	154,377	88,962	---	13,242	144,311	128,829	1,841	843	42,780	33,260
Kenya	42,364	47,976	11,812	11,195								
Lesotho	---	23										
Liberia	75,397	86,754	9,215	11,033			3,401	4,210	62,749	71,398		
Madagascar	66,771	86,166	45,753	60,643	2,248	8,540						
Malawi	21,706	21,870	72	---	12,546	14,787						
Mali	0	12										
Mauritania	4	20										
Mauritius	22,362	30,344			21,788	29,622						
Mozambique	44,232	102,727	---	386	18,236	61,108						
Niger	---	---										
Nigeria	69,800	73,759					65,489	56,378	105	---	2,897	13,169
Rwanda	39,720	64,211	37,713	62,315								
Senegal	0	24										
Sierre Leone	25,694	11,797	24,833	11,199							371	---
Somalia	4	---										
South Africa	57,304	100,250	410	105	24,275	61,159						
Sudan	3,796	3,721										
Swaziland	20,758	57,867			20,739	57,819						
Tanzania	39,818	24,174	30,074	12,194								
Togo	---	---										
Uganda	81,864	125,715	81,733	125,619								
Upper Volta	---	---										
Zaire	19,766	30,480	16,925	28,869					91	---		
Zambia	228	25										
Zimbabwe	---	14,159				7,143						
Total agricultural	1,206,364	1,419,876	593,733	604,528	99,832	256,261	275,597	234,942	64,831	73,794	58,761	56,465
Grand total	13,671,100	18,000,400										

Source: Bureau of the Census

Table 9. The United States: agricultural imports from sub-Saharan Africa, by quantity, for selected items, annual 1979, 1980

Destination	Coffee		Sugar		Cocoa beans		Rubber, crude		Cocoa, cocoa cake, cocoa butter	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
					Metric tons					
Angola	2,403	7,171								
Benin										
Botswana										
Burundi	11,715	10,979								
Cameroon										
Chad										
Congo	---	30	---	6,440						
Djibouti										
Ethiopia	32,950	24,353								
Gambia										
Ghana					16,990	13,665	---	1,333	100	---
Guinea	48	465								
Ivory Coast	50,036	26,284	---	21,169	42,769	47,137	1,589	588	11,742	11,963
Kenya	3,471	3,568								
Lesotho										
Liberia	2,803	3,301			1,001	1,448	52,816	49,747		
Madagascar	15,684	18,311	8,400	17,778						
Malawi	30	---	50,237	22,330						
Mali										
Mauritania										
Mauritius			74,549	72,877						
Mozambique	---	113	78,878	107,378						
Niger										
Nigeria					18,797	20,086	90	---	1,250	10,012
Reunion										
Rwanda	10,045	17,230								
Senegal										
Sierre Leone	7,756	3,616								
Somalia									70	---
South Africa	130	32	115,620	123,816						
Sudan										
Swaziland			79,796	87,952						
Tanzania	10,336	3,758								
Togo										
Uganda	21,646	37,888								
Upper Volta										
Zaire	5,064	9,086					102	---		
Zambia										
Zimbabwe			---	12,062						
Total	174,417	166,185	407,480	471,752	79,557	82,536	54,597	51,668	13,162	21,985

Source: Bureau of the Census

remunerative producer prices and making inputs available, mainly for cash crops. But even with this policy, production of coffee and cocoa may fail to increase in coming years because producer prices no longer fully cover costs, trees are old and declining in productivity, and younger farmers prefer to produce other crops. Investments in these crops will continue, however, because foreign exchange must be earned by the agricultural sector. These investments may produce unfavorable returns in coming years and may require reconsideration by the Government.

Agricultural Trade

At least 10 percent of Cameroon's exports go to other African nations, mostly Gabon, Central African Republic, Chad, and Nigeria. Agricultural commodities dominate this trade, particularly to Gabon and Nigeria. Some of the trade is clandestine, depriving some of the Cameroonian markets of products that are more easily shipped out. Nigeria takes a significant portion of food production from the western part of the country.

U.S. agricultural imports from Cameroon totaled $63.2 million, of which coffee comprised $41.6 million and cocoa beans and products $17 million. U.S. agricultural exports amounted to $6.2 million in 1980; inedible tallow and soybean oil were the principal products. Most of Cameroon's wheat imports come from the EC and most of its imported rice comes from Pakistan.

Outlook

If oil production can be stepped up in 1981 and refinery capacity improved as planned, Cameroon will be in a sound economic position throughout 1981. Even so, the continued decline in per capita food production could bode poorly for the future. The Government will need to make bigger investments in the agricultural sector, or increased imports may be needed. (Michael A. Cullen)

Gabon

Gabon, with the second highest per capita income in Africa (after Libya), registered economic growth in 1980. The Government's austerity program, instituted after a period of overexpansion and indebtedness in 1976-77, has succeeded in producing recovery. Petroleum, mineral (manganese and uranium), and timber exports are the mainstays of Gabon's foreign exchange earnings. GDP is now estimated at over $3 billion and should grow 12 to 15 percent this year. Per capita GDP is over $4,000. The national budget for 1980 showed a surplus as the state managed to rein in its trade deficit and pay back some of its foreign debts. The rate of inflation was brought down from 18 to 10 percent in 1980 and there was a balance of payments surplus.

Agriculture accounts for only 4 percent of GDP. Production is mostly for home consumption. Root crops are the staple in the diet, although some rice is also produced. Cocoa and coffee are produced by small landholders, but exports of the two are very minor. Palm oil production is currently mounting as large agro-industrial facilities are put into production. Oil palm plantations are being constructed now, and the area in palm trees is increasing annually.

Very little domestic food reaches the urban markets because transportation is difficult and the population is dispersed thoughout the country. Urban consumers are supplied almost entirely from imports, a situation which the Government is attempting to change. The long neglect of the rural sector is being remedied by projects to improve capital-intensive production of rice, sugarcane, palm oil, and peanuts. Some of these projects will be on agro-industrial complexes run by parastatals, which are semi-autonomous, government-controlled agencies. By offering opportunities in the rural areas, the Government hopes to reduce the flow of people to the urban areas and improve the agricultural sector.

France is Gabon's main trading partner. The U.S. agricultural exports for 1980 were $1.0 million, of which rice was the principal commodity.

Gabon's petroleum production is expected to reach 8 million tons this year, and this will greatly improve the economic situation. The emphasis on improving agriculture will remain, although it is clear that imports will continue. As long as oil production is maintained, Gabon's economy will remain strong. (Michael A. Cullen)

Ghana

The Economy

During 1980, Ghana experienced economic growth for the first time since 1975. Real GDP had declined 9 percent between 1975 and 1979, while per capita GDP fell 24 percent. The estimated 2-percent increase in 1980 was due largely to a 12-percent rise in cocoa production and an improved harvest of some food crops in 1979/80.

The Government hopes that 1980 represented a turning point for the economy, which has been characterized by slow growth, shortages of goods, high inflation, large government deficits, a deteriorating transportation network, and shortages of foreign exchange. Industrial output has been severely limited by lack of raw materials, spare parts, and machinery. Production and export of minerals—gold, diamonds, manganese, and bauxite—have declined.

Inflationary pressures continued during 1980. An increase in the minimum wage from 4 Cedis ($1.45) to 12 Cedis ($4.36) per day brought some relief to the average Ghanaian, whose standard of living has declined over the last several years. The minimum wage was held at 4 Cedis from 1977 to 1980 despite quadrupling of the consumer price index. In the year ending in October 1980, urban food prices increased 67 percent while the rural index rose 94 percent. The sale of imported food items in urban areas helped to hold down prices. Wage costs are now estimated at 40 percent of total government expenditures, compared with 14 percent for development programs.

Agricultural Production

Output of most food crops improved in 1980 because of better weather; however, the value of total agricultural

production remained the same because of a 9-percent drop in the 1980/81 cocoa bean crop. Further deterioration of the transportation network created difficulties in the marketing of crops.

Cocoa, which accounts for about 70 percent of Ghana's foreign exchange earnings, benefited from the good weather. This, however, was not enough to compensate for the Government's failure to increase the producer price, which remains at 120 Cedis per 30-kilo bag ($1.45/kilo). With the real producer price declining and transportation difficulties increasing, many farmers shifted their attention to food crops. The Government is being pressured to increase the producer price, but that move must be weighed carefully in view of the declining world price for cocoa.

The Government's emphasis on agricultural production has yet to show results, as per capita food production decreased again in 1980, to 70 percent of the 1969-71 period.

Agricultural Policy

The Government which took office in September 1979 has given highest priority to increasing food production, expanding exports, and rehabilitating the transportation network. In May 1980, President Hilla Limann launched "the New Deal," a crash program which gives maximum attention and increased financial support to raising the output of grains (corn, rice, sorghum, and millet), roots and tubers (cassava, yams, plantains, and cocoyams), beans/legumes (peanuts, cowpeas, and soybeans), and livestock (poultry and eggs).

Agricultural Trade

Exports of cocoa beans and products comprised 80 percent of Ghana's total exports in 1979. This share declined to about 70 percent in 1980 and will decline even further in 1981, because of a smaller harvest and lower world prices. With petroleum imports already exceeding $300 million annually, Ghana will have to restrict imports, and this will hurt economic growth.

The Soviet Union was Ghana's best cocoa customer during 1980, importing 59,000 tons or 26 percent of the 229,000 tons exported. Other major purchasers were the Netherlands with 43,000 tons, the United Kingdom with 35,000 tons, and West Germany with 29,000 tons.

As domestic production has declined, Ghana has had to increase food imports, particularly grains. In 1980, wheat imports were estimated at 131,000 tons, corn at 50,000 tons, and rice at 18,000 tons. Sugar, meat, and meat products were also important. The United States usually provides some food aid to Ghana. A new P.L. 480 Title I agreement providing 26,000 tons of wheat and 14,000 tons of rice was signed on March 31, 1981.

Outlook

The growth of the Ghanaian economy during 1981 will depend largely on crops harvested later in the year. Weather during the growing season (May through September) will largely determine output. The reduced 1980/81 cocoa crop, now being marketed, will earn about $600 million in foreign exchange, compared to $800 million in 1980. Some cocoa is being sold in the neighboring countries. The lower export earnings could mean that in 1981/82 almost half of Ghana's foreign exchange will be used to buy petroleum. A decision to implement an austere import program would mean further economic contraction, limited investment, and constraints on future development. (Margaret B. Missiaen)

Ivory Coast

The Economy

Ivory Coast's economy grew faster in 1980 than in 1979. Real GDP increased by 6.5 percent. Per capita GDP reached $1,300, one of the highest in Africa. Such improvement occurred despite the decline in world cocoa and coffee prices. Nevertheless, major economic problems persist. The balance of trade remained barely positive in 1980. This has necessitated severe cutbacks in Government investment and spending programs and has forced the reorganization of several parastatals. Austerity measures have been implemented as part of an International Monetary Fund agreement valued at $780 million. The retail prices of bread and rice have been raised while the producer price paid by the government for rice has been lowered. A shortage of both public and private funds for investment will likely occur, at least in the short run. However, after newly discovered oil begins to flow in the next year or two, the Ivory Coast is expected to provide much of its own petroleum and should be exporting by 1985. If this materializes as scheduled, Ivory Coast's economic situation will be improved by the reduction of petroleum imports. The Government soon intends to borrow funds against the expected earnings from its oil.

Agricultural Production

The country's economy depends on the agricultural sector, since in a normal year nearly 60 percent of export earnings derive from cocoa and coffee. The healthy performance of the agricultural sector prevented a forecasted recession and was responsible for the growth reflected in the general economic indicators.

Ivory Coast is presently the world's largest cocoa producer. Production in 1979/80 increased to 373,000 tons; for 1980/81, 400,000 tons are expected to be marketed. (Of this crop, at least 30,000 tons will come from Ghana because of higher Ivorian prices.) In 1979/80, coffee production fell by 10 percent to 245,000 tons, but the 1980/81 crop is expected to reach 300,000 tons. Ivory Coast is the world's fourth largest producer of coffee and the largest African producer.

Even though the agricultural sector is well diversified, no commodity beside cocoa or coffee accounts for more than 15 percent of export earnings. In 1979, rough and processed timber accounted for just under 15 percent, while palm oil, pineapples, and bananas together accounted for barely 4 percent. Ivory Coast is the world's third largest palm oil producer, with an output of

150,000 tons in 1980, compared to 117,000 tons in 1979. Pineapple production in 1980/81 is expected to increase slightly to around 300,000 tons, but exports should remain steady, as increased competition from the Philippines and Thailand have limited Ivory Coast's European market expansion. Banana production is also expected to increase to 175,000 tons, of which 65 to 70 percent should be exported.

As part of the Government's plan to improve food production, sugar output increased markedly over the last 3 years. Refined production rose from 138,000 tons in 1979 to 187,000 tons in 1980, and exports rose from 30,000 tons to 70,000 tons. All sugar is produced on state-operated commercial farms and processed by six recently completed complexes.

Rice is the principal food grain, and its increased production is one government goal. Paddy production is estimated at 550,000 tons for 1980, up 3 percent from 1979. Despite guaranteed prices, programs have been only moderately successful in increasing production since only 25 percent of the rice is marketed through commercial channels. Prices are also guaranteed for corn, but since it is a subsistence crop most is marketed and consumed where it is produced.

Agricultural Policy

The Government recognizes the primacy of the agricultural sector for foreign exchange earnings, local income generation, and employment for most of the Ivorian population. Although export crops are given much emphasis, food crops are drawing increasing attention, since demand is rising so rapidly. Consequently, the Government has established programs to encourage rice production, particularly in the north. Unfortunately, these programs have had little success because only limited quantities of rice are traded through commercial channels. In providing guaranteed prices for food grains mainly produced in the north, the Government intends to narrow the disparity in incomes between the farmers in the savanna and those who prosper from the abundance of cash crops raised in the rich forest belt. Cotton is also part of the plan to improve incomes and its production quadrupled in the 1970's, reaching 54,000 tons by 1980.

Policies for cash crop production in the south have changed. Small holder production of coffee, cocoa, and palm oil is still vigorously encouraged and production has risen dramatically, especially coffee and cocoa. Up until this year, farmers received subsidies for new cocoa plantings. However, these subsidies have now been discontinued as there is doubt that high production levels will bring sufficient returns on the world market. The Government is thus shifting its emphasis from cocoa to coffee. Subsidies are now being paid for new coffee plantings and the revitalization of existing stands. This shift is expected to ensure greater financial security in the unpredictable and currently unfavorable world markets.

Agricultural Trade

Ivory Coast has recently encountered serious problems in its cocoa exports. In late 1979 and early 1980 when marketing began, the Government decided that world prices were too low to meet production costs. Cocoa was withheld from the market in an attempt to raise the price, but because of insufficient storage space the crop began to deteriorate and the cocoa was sold. The Government therefore lost $100 million. This year, the Government intended to store a good portion of the crop, but so far sales have been strong, even though prices have been less than favorable. The Government plans to expand storage facilities.

The Government still remains extremely dissatisfied with the price movements on the world market. To date, it has refused to sign the International Cocoa Agreement because claims that both the floor price and the Ivorian quota stipulated in the agreement are too low. Since Ivory Coast subsidizes inputs and pays a guaranteed producer price it needs a price of $1.00 per pound to cover costs. Anything above that can be invested in production, so the Ivorians are asking for a price of at least $1.20 per pound. It appears that the discord will continue for some time, and the Government may be forced to alter its cocoa production and trade policies further.

Ivory Coast's agricultural imports include wheat and wheat flour from France and rice from Pakistan and Thailand. Imports from the U.S. totaled $21.8 million in 1980, of which wheat accounted for $20 million.

In 1980, U.S. imports from the Ivory Coast totaled $275 million, including cocoa beans valued at $128.9 million, and cocoa butter valued at $26.7 million. The value of coffee imports from Ivory Coast fell by 42 percent to $90 million, while the quantity fell by 47 percent. Significantly, almost all of Ivory Coast's 1980 sugar exports, valued at $13.2 million, went to the U.S., and the Government seems willing to maintain this arrangement.

For both agricultural and nonagricultural trade, France continues to dominate the Ivorian market. To date, U.S. penetration of the market, particularly for grains, has been limited by the high shipping costs.

Outlook

Although severe economic problems were averted last year by the favorable performance of the agricultural sector, financial problems persist. A balance of payments deficit and the Government's austerity measures will restrict economic growth as funds for investment grow scarce. Worsening inflation and rising import costs will undoubtedly exacerbate these problems, but the strength of the agricultural sector will keep the economy buoyant. Moreover, if the newly discovered oil reserves are as extensive as early signs indicate, Ivory Coast's financial position could improve rapidly. (Michael A. Cullen)

Liberia

The Economy

The Government of Master Sergeant Doe has been in power over a year. Although the People's Redemption Council (PRC) has maintained a moderately stable political climate, serious financial and economic problems continue. At the time of the coup, the Government's financial position was extremely poor; it was tremen-

dously overextended, and export earnings were declining. The new expenditures proposed by Doe, including salary increases for civil servants and army personnel, put an additional strain on an already tight budget.

A $65 million, 2-year standby agreement negotiated with the International Monetary Fund was put into effect in September 1980. It puts strict constraints on Government spending, and has resulted in a severe liquidity problem in the public sector. Public investment funds are scarce, as the Government can do little but service its debts to maintain its credit. To assist the Government in handling its budget, the United States is providing $25 million in economic support, while a P.L. 480 agreement will provide at least $10 million in food aid during FY 81.

A lack of confidence in the private sector has depressed commercial activity, bringing import trade to a near standstill. Merchants have requested bank credit for their import transactions in lieu of tying up their own funds in inventories, as they normally did in the past. But it is unavailable as the banks have reduced credit because of the unstable political situation and the heavy withdrawals since the coup.

Agricultural Production

Production of rice, the major staple of Liberian diets, continues to engage the efforts of 90 percent of Liberia's 151,000 agricultural households. Annual production over the last 5 years has leveled off at 250,000 to 260,000 tons of paddy, although demand has steadily risen over that period. The farm price remains at 12 cents per pound, considerably less than in neighboring countries. This differential results in unknown quantities being smuggled out of the country.

The aim of both the former and present Governments has been to make Liberia self-sufficient in rice. But realization of this goal is unlikely because of constraints on production and difficulties in marketing. More than 60 percent of the crop never reaches official marketing channels, thus the Liberia Produce Marketing Corporation (LPMC) purchases very little of it. Furthermore, expansion of rice production has been impeded by the high cost of clearing land, the introduction of poor quality varieties, and labor shortages in some rice-growing areas.

The new Government continues to encourage both coffee and cocoa production. Programs to increase production were begun several years ago, but they have not yet shown clear results. The 1980/81 coffee crop is estimated at 8,000 tons, a 32-percent decrease from 1979/80. The drop in the producer price from 92 to 80 cents per pound accounts for the decline in sales to LPMC by Liberian farmers and it likely discourages traders from neighboring countries from selling in Liberia. The 1981/82 crop is expected to be lower still as prices paid by LPMC remain low. The cocoa crop increased 10 percent to 4,400 tons. Producer prices for cocoa were raised from 78 cents to 90 cents per pound. Palm oil production declined from 25,000 tons in 1979/80 to 20,000 tons in 1980/81, and palm kernel deliveries over that period also declined from 8,000 tons to 7,300.

Agricultural Policy

Since the coup, LPMC has been given responsibility for marketing domestically produced rice as well as imported rice. The intent of this policy is to increase the supply of rice. LPMC will pay producers set prices, presumably to procure more rice than it does now through private traders. It will also increase farmers' incomes, since they are often forced to sell to private traders at below set prices when they are short of funds. But, for this policy to work, LPMC must improve its operations. Currently, it faces financial difficulties resulting from a decline in coffee export revenues and from losses on sales of imported rice. Selling imported rice at below cost and thus providing a consumer subsidy has rendered LPMC short of funds with which to pay both coffee and rice producers. This has discouraged production. In addition, rice shortages have recently occurred as traders purchased rice at $20 per 100-pound bag and smuggled it to neighboring countries where prices are higher. Raising the consumer price of rice to provide LPMC with more operating revenue would be a difficult matter, one that even Master Sergeant Doe may be unable to accomplish.

Agricultural Trade

U.S. agricultural exports to Liberia amounted to $32.7 million in 1980, of which $24.8 million was rice and $3.3 million was wheat. All of the wheat, 17,000 tons, and much of the 65,000 tons of rice were sold under concessional terms. As demand for rice increases, Liberia must import larger quantities each year. In 1980, 70,000 tons were imported, and prospects are that more will be required in 1981. The U.S. should remain the major supplier.

U.S. agricultural imports from Liberia totaled $86.7 million, including $71.4 million worth of rubber and $11 million of coffee. Liberia's overall trade balance for 1979 showed a surplus of $30 million, and 1980 trade is expected to show a surplus as well.

Outlook

The severe financial problems facing the Government will likely hinder economic growth in 1981. Although some progress has been made in stabilizing the economy, efforts will be devoted almost exclusively to servicing debts and maintaining credit. The shortage of investment funds in the public and private sectors will continue, and government programs for improving agricultural production will be hampered. Budgetary support and development assistance from the U.S. and the International Bank for Reconstruction and Development (IBRD) will finance some of the planned programs, but many of the country's development needs will be underfinanced. (Michael A. Cullen)

Nigeria

The Economy

Moderate economic expansion took place during 1980, as Nigeria's new civilian Government, headed by President Shagari, completed its first full year. Real economic growth continued at 6 to 7 percent, with OPEC price increases boosting the economy. Real GDP is estimated at $87.6 billion, of which agriculture accounts for $9 billion. Inflation plagues the economy, and though the rate is officially estimated at 10 percent it may be closer to 25 percent for food, transportation, and housing. The interim 1980 budget for April 1-December 31 has provisionally registered a small deficit, but final figures later this year may show some changes. The 1981 budget has been formulated at $22.8 billion.

During 1980, Nigeria maintained oil output of around 2 million barrels per day. A steady flow of petroleum earnings elevated foreign exchange reserves to a record $10 billion and put the debt service ratio at a favorable level. Although the Government intended to maintain oil output at over 2 million barrels per day, output for the first six months of this year has averaged only 1.6 million. The decline in world demand has caused this production drop and has reduced oil export earnings. Proceeds for 1981 were projected at $24 billion, but will likely fall short of this. As of the end of May, foreign exchange reserves stood at $8 billion.

The huge foreign exchange reserves accumulated during the later part of 1979 and early part of 1980 allowed Nigeria to increase its monthly import bill from $1.03 billion to $1.7 billion between October 1979 and September 1980. Over this period, capital goods comprised $9.5 billion, intermediate goods such as consumer products accounted for $4.5 billion, and raw and processed food products accounted for $3.1 billion of the total import bill. The liberalization of import restrictions allowed these imports to rise so rapidly.

To offset increasing imports, expansion of manufacturing and food production are the stated aims of the Fourth Development Plan announced in early 1981. As part of the plan to increase industrial and agricultural production, the Federal Government has begun to liberalize restrictions on foreign equity ownership in joint ventures in agriculture. To increase investment in the agricultural sector, the Nigerian Government signed the Memorandum of Understanding (MOU) with the U.S. Government in July 1980. The agreement established the Joint Agricultural Consultative Committee (JACC) comprised of representatives from various American agri-business firms and their Nigerian counterparts. The role of the JACC is to promote joint ventures and investments by U.S. firms in the Nigerian agricultural sector, especially in large-scale farming, food processing, and agricultural infrastructure. In addition, the MOU includes provisions for a soil survey and future technical and scientific training to be carried out by the U.S. Government.

Agricultural Production

Total grain production in 1980 increased by 295,000 tons, 3 percent over 1979 levels. Generally favorable weather throughout the country accounted for the good harvests. Production of sorghum, a major staple crop in the north, increased slightly to 3.81 million tons in 1980. The official producer price was raised from $210 per ton to $364 per ton for the 1980 season, but the market price dropped well below this level. Millet production failed to increase because of a long dry period following rains at the beginning of the season. Production was unchanged from the 1979 level, 3.13 million tons. The official producer price for millet was increased from $210 a ton to $381, but the market price was actually well above this level. The huge demand for millet, an important staple during the hungry period in August, induced clandestine trade of the bumper crop from Niger.

Wheat production increased from 10,000 tons to 15,000 in 1980. Because of climatic limitations, Nigeria will never become a substantial wheat producer and will have to depend on imports to meet its continually expanding demand.

Corn production increased to 1.72 million tons in 1980. Increased area, greater availability of fertilizers, and use of improved seed accounted for this increase. The official producer price was raised from $250 to $346 per ton, as the Government attempted to promote production.

Paddy rice production increased by 19 percent to 1.03 million tons, on an area of 550,000 hectares. The producer price was increased from $460 to $570 per ton, as rice is also a crop strongly encouraged by the Government. Although rice production has nearly doubled over the past 5 years, domestic demand has increased faster, necessitating ever-growing imports, estimated at 600,000 tons for 1981.

Peanut production increased, mostly because of favorable weather. Supplies bought by the Groundnut Marketing Board are estimated at 30,000 tons, resulting from an increase in the producer price paid by the Board. Nevertheless, much of the peanut production is traded through unofficial channels or consumed on the farm, leaving Nigeria considerably short of its vegetable oil needs. Production of palm oil remained at the 1979 level of 510,000 tons.

Cocoa production for 1980/81 is estimated at 169,000 tons, a slight decrease from 1979/80, although the latter crop was 21 percent over the previous year. This year's lower crop is due to unfavorable weather and continued decline in the productivity of the aging cocoa trees. The producer price for the 1981/82 season has been increased by 26 percent to $1.10 per pound, slightly above the current world price. Beginning in 1982, new production is expected to come from young trees planted as part of World Bank cocoa rehabilitation projects. However, little overall increase in production is foreseen as the new output will be offset by the reduced production from older trees.

Production of raw sugar for 1980 was 32,194 tons, a 10-percent increase over 1979. Preliminary estimates for 1981 indicate an increase to 42,000 tons, as a second large plantation and mill will come into production. The

1980 production increase halted a 5-year decline caused by labor problems and a shortage of spare parts. A new mill located in Gongola State is expected to begin production this year, and including the currently operating Bacita Sugar Estate, total capacity will be 140,000 tons. Even though all of the sugar production goes for domestic consumption, imports of up to 520,000 tons are necessary to satisfy demand.

The Nigerian Cotton Marketing Board reported 1979/80 production at 55,733 tons, a 50-percent decrease from the previous year. Several reasons have been offered for this decline. Nigerian farmers have available improved varieties, but widespread adoption has not taken place. When improved varieties are used, they are planted late, contrary to recommended practice because cotton has a lower priority than food crops in planting schedules. Its planting is determined by the progression and labor requirements of other crops. Under these conditions, yields on improved varieties decline. Traditional varieties are often preferred. In addition, the shortage of buying and grading facilities has made it difficult for farmers to sell to the Cotton Marketing Board, so some farmers may have reduced their plantings to avoid the marketing problems.

The livestock sector accounts for 5 percent of GDP. The demand for livestock-based protein products is steadily increasing, but domestic production has been unable to satisfy the demand completely. Modernization of the sector is of great importance, but the traditional nature of the system, in which the Fulani control 90 percent of the cattle herd, has made progress difficult. Some improved operations have been established, but mostly outside of the traditional sector. Few reliable current figures exist on livestock.

The poultry industry is one of the fastest growing in Nigeria's agriculture. Although much of the nation's production is from traditional systems where indigenous fowl scavenge for feed, lay few eggs, and provide only local subsistence needs, the growing modern industry provides increasing amounts of poultry meat. As incomes rise and urbanization continues, the demand for poultry will continue to increase.

Agricultural Policy

President Shagari is placing major emphasis on the improvement of agriculture and has instituted a program known as "the Green Revolution." Inattention to agriculture by previous Governments makes his efforts essential, especially since population and demand for food products are rising so sharply. The stabilization of consumer food prices is of primary importance to the Government, and ample supplies help attain this stability. Recent increases in producer prices demonstrate Shagari's intention to increase domestic production, and so does the liberalization of investment and trading policies.

To implement "the Green Revolution," resources are being devoted to agriculture from both the Federal Government's 1981 budget and the Fourth National Development Plan (1981-85). Of the Federal Government's budget of $22.8 billion, nearly 13 percent, or $2.9 billion, is to be devoted to agriculture and water resources. The Plan calls for an investment of $152 billion over the next 5 years, with about 10 percent expected to go for agriculture. The plan has targeted a 7.2-percent annual growth rate in real GDP, assuming a certain rate of oil export earnings throughout the life of the plan. The annual growth rate for the agricultural sector is targeted at 4 percent, but the absorptive capacity of the whole economy and the agricultural sector will determine how much of the planned investment can be expended.

The plan emphasizes the revitalization of the small land holders through integrated rural development projects similar to those implemented by the World Bank. In addition, the establishment of large-scale farms by private entrepreneurs will be encouraged. Members of the JACC could provide technical assistance and capital investment. Other investments by the JACC could be in agro-industries, processing plants, flour mills, feed mills, poultry or livestock operations, or other agricultural infrastructure projects.

Agricultural Trade

Nigeria's agricultural imports reached $3.1 billion for 1980. As population increases, so does urbanization and demand for food. To satisfy demand, imports of rice, wheat, and feed corn have been necessary. Demand for all kinds of processed foods, provided mostly from the EC, has also risen. The loosening of import restrictions will allow much more grain to be imported.

U.S. agricultural exports to Nigeria in 1980 totaled just over $348 million, a 65-percent increase over 1979. Wheat exports amounted to 1 million tons and should reach almost 1.3 million tons in 1981, at a value close to $290 million. The EC is expected to furnish between 200,000 and 300,000 tons of wheat flour. Currently, higher imports are constrained by milling capacity, which is being increased. By 1982, it is expected that Nigeria will be importing close to 2 million tons of wheat. Although domestic rice production has improved substantially large imports are necessary to supply Nigerian consumers. The demand for rice has risen quite sharply in recent years. Rice imports have been restricted by government policy, but this year import quotas have been raised to 600,000 tons. Of this, the U.S. should supply at least 300,000 tons, as compared with 190,000 tons in 1980. The value of U.S. rice exports will increase to $150 million. As the growth in the poultry sector continues and the concomitant demand for feed corn increases, corn imports should double to 300,000 tons. The U.S. will supply almost all of this. Products imported from sources other than the U.S. in 1980 include 350,000 tons of bulk refined vegetable oil, usually "mixed oils" from the EC.

U.S. agricultural imports from Nigeria amounted to $73.7 million in 1980, $56 million in cocoa beans. The U.S. agricultural trade surplus with Nigeria totaled $274 million. Although total U.S. exports amounted to $1.15 billion, the U.S. imports 17 percent of its oil from Nigeria, and this resulted in a trade deficit of $9.75 billion in 1980. This is second only to the deficit with Japan.

Outlook

The Nigerian economy will continue to grow modestly during 1981, despite the decline in oil export receipts in the first half of the year. Although these receipts have fallen below projected levels, no immediate adverse effects on the economy are expected. However, if this trend continues it may be necessary for the Government to make adjustments in its budget and development plans. Current foreign exchange reserves are sufficient to cover imports for six months. U.S. exports, particularly of agricultural products will continue to increase and should reach $500 million by 1982. The creation of the JACC will provide opportunities for U.S. investment in Nigerian agriculture that could enhance future U.S. exports.

Although the Nigerian markets look promising for U.S. agricultural exports, they should not be taken for granted. Movements in the Nigerian market are ruled not only by population increases and income effects, but equally by government policies. Though President Shagari has committed himself to improving domestic agricultural production, particularly food production, at the same time he must allow rice, wheat, and corn imports to rise in order to satisfy Nigeria's food needs. The control of domestic production, as well as import trade and ultimately the marketing and pricing of agricultural commodities, is of great political importance and has in recent months begun to create domestic tension. Thus the nation's food policy has much to do with the internal political situation, and both bear close watching. (Michael A. Cullen)

Senegal

The Economy

Two events of great significance for the country and the economy occurred in Senegal during 1980. Leopold Senghor, the first and only president of the Republic of Senegal, ended his 20-year tenure by relinquishing power to Abdou Diouf, his prime minister and close associate. Though this change had no immediate impact on the economy, Diouf surprised many people by pursuing more active policies than Senghor in managing the current stagnating economy and handling the increasingly tense political situation. The second event had a more direct effect on the economy. Senegal experienced its second consecutive poor growing season with badly timed and inadequate rains. As a result, the peanut crop was the smallest since 1960, while the rice crop declined by more than 40 percent.

The value of agricultural production fell by 20 percent, and the value from the entire primary sector fell by 14 percent. This will present serious financial problems, since in a normal year peanut products alone account for up to 40 percent of export earnings. This year's peanut oil and meal exports will earn about $35 million. The 1980 estimated economic growth was negligible and per capita income remained at $330, one of the lowest in West Africa. In 1980, a plan was drawn up containing austerity measures which were recommended as part of an IMF agreement. They have been enacted to control government expenditures. But, even though some of the plan's targets have been met, the country will experience a balance of payments problem. Moreover, the unpopularity of the austerity program—which calls for increases in gasoline prices, diminished subsidies for peanut oil, and higher food prices—has already elicited resistance and stirred up dissatisfaction. To date the Government has received a $250 million IMF loan, a $50 million World Bank loan, and credit from France amounting to $100 million with which to pay overdue bills to French firms.

Agricultural Production

Poor weather was largely responsible for the unusually low peanut and rice harvests. The early arrival of rains, followed by an unusual 6-week dry period, reduced yields of both crops significantly. Poor quality peanut seed left from 1979's disappointing harvest produced a weakened crop that was easily damaged by the lack of moisture. In addition, persistent ecological problems, such as erosion, degradation, and declining soil fertility, have discouraged farmers, forcing many to reduce area planted or to stop producing peanuts altogether. Total production is estimated at 450,000 tons.

Insufficient moisture prevented full plant development on the rainfed rice crop along the Cassamance River in the south, so yields declined by more than 40 percent. Production was 45,000 tons of milled rice. In the past 2 years rice area has been reduced, and the trend is likely to continue. Problems with salt intrusion and soil acidity persist. Improvements in Senegal's overall rice production are extremely unlikely, even though irrigated rice production has been encouraged in the north along the Senegal River.

Millet production was 553,000 tons, up 12 percent over 1979. Corn production also increased 9 percent to 49,000 tons. According to Government estimates, total food grain requirements are about 1 million tons. Most of the deficit will be covered by commercial and concessional grain imports.

Agricultural Policy

As of October 1, 1980, the National Organization for Cooperation and Development Assistance (ONCAD) was abolished. As the official marketing agent, it had been responsible for purchasing peanuts and other crops and providing inputs to farmers. But it had come under pressure for mismanagement and corruption, and farmer cooperatives criticized it for being unresponsive to their needs. Several incidents occurred in the past few years which made farmers reluctant to deal with ONCAD. Some farmers reduced their peanut hectarage while others stopped producing altogether so they would not be obliged to sell to ONCAD. This, coupled with the continuing ecological problems in the peanut basin, resulted in the production decline of the last 2 years. And prospects for this year's peanut output appear equally poor. Moreover, in ONCAD's absence, farmers are free to sell to private traders, or to hold stocks for later sale or for seed. As a result, of the 450,000 tons produced, only

180,000 have been delivered to the Government. Of that, approximately half will be kept for seed stocks and the remainder will be crushed, rendering at best 32,000 tons of peanut oil and 38,000 tons of peanut meal. The fact that the mills are now controlled by the Government has not resulted in increased deliveries and crushing. In fact, the lack of policy coordination has drastically reduced deliveries to the mills and thus the country's earnings from peanut exports. Although it seems farmers have benefited from the loosening of trade restrictions, the Government has been hurt by the change in marketing practices because it coincided with an unusually poor harvest. Now that trade has been liberalized, the stabilization of production needs to follow.

Agricultural Trade

Senegal's agricultural exports for 1980 are estimated at $90 million, compared to over $200 million in 1979. Peanut meal and oil accounted for much of the 1980 earnings, but their share was considerably less than in 1979, perhaps as little as $35 million.

Senegal's main agricultural imports are wheat and rice. Most of the wheat is imported from Europe, particularly France, while most of the rice is imported from Thailand. Some rice is imported from the U.S. under a P.L. 480 Title III agreement. In 1980, U.S. agricultural exports to Senegal totaled $20.7 million, mostly inedible tallow and some 15,000 tons of rice. In 1979, U.S. agricultural exports to Senegal were $84 million.

Outlook

Depending on the weather during 1981/82, the peanut crop could increase and export earnings improve. It is likely that production will be above that for 1980/81 but prospects for substantial improvements seem unfavorable because of persistent agronomic problems and the marketing policies now in effect. If production fails to improve markedly, Senegal could experience another difficult year in 1982, since its financial and economic problems will undoubtedly worsen. Despite the decline in production in the last 2 years and the efforts initiated by former President Senghor to diversify the agricultural sector, Senegal remains almost entirely dependent upon its peanut product exports for foreign exchange. This dependence is acutely apparent in years of poor production. Although the Government well understands this fact, policy has inadequately dealt with it, so Senegal remains susceptible to continued economic strain. (Michael A. Cullen)

Sierra Leone

The Economy

A decline in economic activity over the past few years has reduced the annual growth rate to around 2 percent. Per capita GDP is estimated at $256. The rate of inflation is estimated at 22.5 percent. The mining sector accounts for 60 percent of export earnings and the agricultural sector for 40 percent. Reduced mineral production contributed to a growing trade deficit in 1978, but the deficit was reduced in 1979 by improved diamond prices and increased cocoa exports.

Agricultural Production

Rice occupies 72 percent of the 640,000 hectares cultivated, and production in 1980 is estimated at 565,000 tons of paddy. Much of the rice is consumed where it is grown, with only a small portion reaching commercial channels. The lack of infrastructure and the uneven marketing policies compel farmers to sell less of their crop than what is necessary for total national consumption. There is, however, clandestine trading into neighboring Guinea.

Palm kernels continue to be an source of export earnings. Deliveries to the Sierra Leone Produce Marketing Board (SLPMB) have fluctuated considerably, depending upon the producer price. The 1979/80 purchase by the SLPMB amounted to 31,800 tons, with exports reaching 12,400 tons. Production of palm oil, which is consumed domestically, is estimated at 45,000 tons.

Coffee output in 1979/80 was 9,000 tons, a 32-percent reduction from the previous year. The forecast for 1980/81 is 11,000 tons. The producer price was increased in early 1980, from 75 U.S. cents per pound to 86 cents per pound. Apparently, this price change had little affect on deliveries to the SLPMB.

Cocoa production for 1979/80 was 11,000 tons, a 57-percent increase from the previous year. The increase in cocoa production may in part be due to the increased producer price, which as of November 1980 stood at 86 cents per pound.

Agricultural Policy

The emphasis on improved food production is very clear. The agricultural sector, which employs over 80 percent of the population, will be given much attention in the second five-year plan now being formulated. Improvements in agricultural production, rural incomes, and services will be covered in the plan.

The Government initiated its "Crash Rice Program" in 1979, in order to reach self-sufficiency. The new program, which is very ambitious, aims to increase acreage and provide inputs, but whether the infrastructure can handle the program is questionable.

Agricultural Trade

Annual rice consumption is estimated at 340,000 tons. Imports are always required. In 1979 over 60,000 tons of rice were imported, while in 1980 42,000 tons were necessary. This year, with a crop estimated at 320,000 tons milled, imports are expected to reach 20,000 to 25,000 tons. These imports typically originate from Thailand, Pakistan, and Burma. Concessional sales are made by the U.S. and Japan.

U.S. agricultural exports to Sierra Leone in 1980 reached $5.5 million. Of this, $2.6 million consisted of wheat and $1 million of rice. All of Sierra Leone's wheat imports originated from the U.S.

U.S. agricultural imports from Sierra Leone amounted

to $11.8 million in 1980, of which $11.1 was coffee. The U.S. purchases 35 percent of the national coffee crop, while the U.K. purchases 60 percent.

Outlook

With the decline in the mining sector, Sierra Leone's economy has deteriorated. Attempts have been made to re-open some of the iron ore mines, but to date little has come of the efforts. It appears that the Government, because of its export earning decline, will have less and less money to devote to development. While rice production is holding up this year, there is little margin of safety as the economy continues to falter. (Michael A. Cullen)

Ethiopia

The Economy

Ethiopia's economy is believed to have improved only slightly during 1980, and annual per capita income remained at or below $100. Most of the country's 14 provinces were hurt by drought at one time or another. Agriculture is still suffering from disruptive attempts at land reform, poor resource management, and a lack of production incentives.

Despite various attempts to achieve a negotiated settlement, the Eritrean and Ogaden conflicts have continued and have caused the flight of some 1.7 million Ethiopians. There appears to be no near-term solution to the warfare. This two-front insurgency plus some internal disturbances, coupled with an aggressive program of nationalization and centralized planning implemented by the Provisional Military Government of Socialist Ethiopia (PMGSE), continues to strain the already fragile economy. Development planning and project implementation have suffered because the bulk of the financial resources must go to support the military rather than for programs to upgrade the economy. Where there have been activities suggesting improvements, there is little way to evaluate the results because the movements of foreigners are restricted. For example, the Ethiopian Relief and Rehabilitation Commission has reported that some 20,000 persons displaced by drought and conflicts have been resettled in an effort to make them agriculturally productive, but what means of production have been provided has not been disclosed for evaluation.

Fifty percent of Ethiopia's GDP normally comes from agriculture, its most important economic activity, but the growth rate of agricultural production has been faltering. Given the drought and effects of war, current estimates indicate that the rate is less than half the estimated 2.5 percent annual rate of population growth.

Agricultural Production

1980 began with the prior year's main "meher" season crop (harvested from November to January) only slightly better than the poor, drought-affected crops harvested in 1979. The weather in 1980 proved to be little better. The "long rains" that water the secondary "belg" season crop began in mid-June 1980, were about 3 months late. Harvests for that crop were mostly below average; in some areas, crops were completely lost. Dry weather took its toll in the Tigrai, Wollo, and part of the Gonder regions in the north, and in Arssi, parts of Shewa and Welega, Gamo Gafa, Sidamo, Bale, and Hararghe regions in the center and south.

In some areas, dry weather continued late into 1980, giving poor meher cereal and pulse harvests as well as low yields of oilseeds. Livestock also suffered from dried-up pastures, and in some areas as many as 50 percent of the animals were reported lost.

Government prices that were too near cost levels discouraged expanding production of export crops. In some cases these were replaced by food crops that were held for later use by the farmers. War-related dislocations of people also disrupted traditional cropping patterns.

When compared with the 1969-71 average, Ethiopia's agricultural production from 1974 to 1979 declined steadily. In 1979, overall output rose considerably, but in 1980 production dropped again. The cereal harvest in 1980 was 6 percent lower than in 1979. The 1980 pulse production fared little better, 4 percent below 1979. Sesame output in 1980 was 43,000 tons. Last year's peanut output remained about at the 1979 level, and sugar and coffee made good gains.

Coffee, the principal agricultural export, has been the bright spot in the agricultural picture. Over the past decade coffee production has generally shown good growth. The 1980 production of 187,000 tons is estimated to be 115 percent greater than the 1969-71 average. Coffee gains might have been even stronger had there not been problems with the coffee berry disease. High world prices during the late 1970's provided a strong incentive to expand production.

Agricultural Policy

Although in recent years the Government has planned to upgrade agriculture, the effort has been less than successful. Its agricultural program has been two-pronged: establishing collective farms called peasant farming cooperatives, and controlling marketing and distribution. Both have been costly interruptions to the traditional production system. Peasant farmers have not been attracted to collective farming because those who have managed to continue to farm have small plots and those who received land after the revolution did not wish to be collectivized. Collectivization appears to them to reverse the gains made under the 1975 land reform. Although area in state farms has expanded, yields have been poor and planned outputs have not been reached.

Control over the marketing and distribution system has been constantly growing. More agricultural output is being purchased by the Agricultural Marketing Corporation (AMC) while private traders are handling less. However, prices paid by the AMC are mostly below the market prices, and farmers would prefer to sell to private traders.

Agricultural Trade

In 1979, Ethiopia's exports totaled about $423 million, compared with $306 million in 1978. About 94 percent of its exports are normally agricultural; of these, over 80 percent is coffee. Coffee exports in 1980 totaled 86,899 tons valued at $243 million, compared with 89,000 tons valued at $292 million in 1979. For 1981, coffee exports are targeted to increase to 100,000 tons, so as to compensate for losses in 1980 due to the collapse of world prices. To accomplish this, heavy domestic coffee consumption may have to be reduced and stricter controls put on contraband dealings. Imports in 1979 amounted to some $576 million, which was considered a limited increase when compared with recent years. Since 1974, Ethiopia's trade balance has been deteriorating. Efforts to hold down imports were successful in 1979 as the trade deficit was 26 percent lower than in 1978.

In recent years, oil has dominated Ethiopia's imports. In 1974, oil imports were only $15 million. For 1981, oil imports are estimated at roughly $500 million. In the mid-seventies Ethiopia's foreign debt was mostly owed to the World Bank group. Since then, an ever-increasing percentage is owed to the Soviet Union and to Eastern Bloc countries that supply crude oil, petroleum products, and military equipment. Most funding for these items has been credits and loans, with grants accounting for less than $5 million. Credit for commodities other than for oil or war supplies has been slow from the Eastern Bloc countries, and for that Ethiopia depends on the World Bank and the EC.

In 1979, the U.S. bought $108.8 million of agricultural items, and exported only $18.2 million. In 1980, the U.S. imported $86.4 million and exported $21.9 million in farm products. U.S. agricultural imports from Ethiopia are almost all coffee.

Outlook

Without a surge in coffee prices, excellent weather, and peace, Ethiopia is not likely to make major economic gains soon. For food production to increase, cooperatives must gain experience. At least prerevolutionary levels of food self-sufficiency must be attained if some food crops are to again be available for export.

Some observers believe Ethiopia may now be looking west for aid. In December 1980, foreign firms whose property had been nationalized were invited to send representatives to discuss claims. But because Ethiopia has not yet made reparations for $16 million in nationalized American property, the United States, bound by the Hickenlooper Amendment, cannot extend any development aid. The U.S. under Title III does extend humanitarian aid, which was set at $3.7 million for U.S. FY 1981.

Since there are no unusual restrictions on private commercial activity in Ethiopia, there may be some potential for private business. (H. Charles Treakle)

Kenya

The Economy

Kenya's economic growth declined again in 1980, to only about 1 percent. Growth has been slowing since the boom year of 1977, when GDP increased by 7.3 percent because of exceptionally high export prices for coffee and tea. Although the economy is diversifying, coffee and tea were still 45 percent of total export value in 1979.

Large budget deficits led to substantial government borrowing from the Central Bank in 1980. Inflation, as measured by consumer price indices, was 13 percent, compared to 9 percent in 1979. Kenya's severe financial problems have reduced agricultural investment, in turn hurting the economy. Agriculture continues to be the key to Kenya's economy, and land use goals include providing employment, as well as food and exports.

Since 1979, the shortfalls in production of corn, Kenya's staple food, have overshadowed other aspects of Kenya's agricultural performance.

Agricultural Production

Corn production estimated at 1.6 million tons was considerably below requirements for the second consecutive year. Imports reached record levels of about 360,000 tons. Apparently, dry weather in July in the main corn growing area was a factor. Grain shortages and imports continued into 1981. It seems that tastes change with necessity. Recently Kenya increased imported yellow corn's selling price to equal that of white corn. Ten years ago people would not even eat yellow corn meal.

While coffee production increased to a near-record 92,000 tons, average export prices dropped for the third year in a row, to about Ksh. 26 per kg. (about U.S. $3.60). A recent devaluation will help to maintain the Ksh. returns from coffee exports. Like several other African countries, Kenya is gearing up for increased coffee production, mainly a response to the price boom of 1977. While strong in early 1980, prices of Kenya's tea exports fell in the second half of the year, and production dropped because of dry weather. The drop was the first since 1974; production was about 90,000 tons.

Deliveries of cattle to the Kenya Meat Commission and of milk to the Kenya Cooperative Creamery were down during the first half of 1980 from year-earlier levels. Milk production is particularly vulnerable to dry weather.

Wheat production, at 175,000 tons, was less than in the late 1960's, while consumption has increased by about 50 percent since that time. The 1977 wheat consumption increase to 250,000 tons could be related to the coffee boom that year. Wheat consumption could reach 300,000 tons in 1981, but it will be restrained by availabilities. Recent wheat demand may be related to corn meal shortages in urban areas. Wheat supplies, especially those imported, are more easily controlled by the Government, and considerable amounts of wheat can be obtained on easy terms or as foreign aid.

Pineapple production is a highly commercial, intensive operation with little if any smallholder involvement; this

contrasts to recent increases in smallholder tea and coffee production. Pineapple production reached a record 143,000 tons in 1980, with 140,000 tons being processed. The pineapple industry provides full-time employment for an estimated 5,000 people. Company-held land is estimated at about 4,000 hectares. Pineapple exports, mainly to Europe, earned slightly over Ksh. 200 million in 1980, placing it in third or fourth place as an agricultural foreign exchange earner.

Sisal was one of Kenya's few bright spots in world markets in 1980. Prices were good at $860 per ton for U.G. grade, c.i.f. European ports. Production was up to about 48,000 tons, the highest since the record of 86,000 tons in 1974.

Agricultural Policy

With its rapidly increasing population, Kenya faces one of the more challenging natural resource constraint situations in Africa. Arable land, water, energy, and minerals are in tight supply. Another issue is the small farmer's position. Smallholders provide the base for food grain production for the country. Questions include whether there are alternatives to the smallholder, and whether capital could be better used. The Kenya Government has been working out a comprehensive food policy in which donor agencies are showing an encouraging interest.

The Government attempts to hold down consumer food prices while inducing farmers to produce and market enough for self-sufficiency. This is not easy and can lead to financial problems for middlemen such as the National Cereals Board, Kenya Cooperative Creameries, and the Kenya Meat Commission. Subsidies are used to assist such bodies in carrying out national policy. Most of those who benefit are the approximately 10 percent of the population in urban areas. With foreign exchange earnings down and the economy weak, the Government must weigh the cost of such subsidies more carefully.

Agricultural Trade

While Kenya's exports increased to about $1.3 billion in 1980, imports escalated by 55 percent to about $2.4 billion, resulting in a record $1.1 billion trade deficit. This is partially offset by an estimated $106 million in foreign exchange earnings from tourism.

The use of energy rose faster than the GDP. Hydroelectric production was down because of dry weather, so use of fuel oil for minimal electric generation increased. Net imports of petroleum increased from 7.5 percent of total imports in 1979, to an estimated 10.5 percent in 1980.

The terms of trade deteriorated by about 19 percent in 1980, to an index of 77, compared to 100 in 1976. If oil trade is not considered, however, the deterioration was slightly less than 5 percent compared to 1979, to an index of 84. While oil prices have continually increased, Kenya's export coffee prices have steadily declined since 1977.

Outlook

The short-term outlook for Kenya's agriculture is unfavorable for a number of reasons. World coffee prices have been dropping again during the early months of 1981. The coffee crop is expected to be down but that may not matter, as the crop should be sufficient to fill the export quota set for Kenya by the International Coffee Organization. If Kenya does not get an increase in its quota, it could be locked into holding large coffee stocks. Given normal weather, tea production should increase over 1980, but export prices of tea have also dropped since the latter part of 1980.

With marketed corn in 1980 considerably below requirements, large imports of grain are again necessary in 1981. Milk powder imports will also be required.

On the brighter side, the long rains started well in March and April, and indications from seed sales were that corn planting is adequate. Availability of fertilizer was also reported satisfactory. However, questions remain as to whether credit and price incentives have been sufficient, and as to the yields from late-planted corn.

Sugar production is forecast to increase again as producer prices and area have been increased. Exports could increase sharply to 152,000 tons. (Lawrence A. Witucki)

Somalia

The Economy

Currently Somalia is in serious economic and financial difficulties. Conditions have progressively worsened because of a number of factors: (1) skyrocketing military costs of the border conflict with neighboring Ethiopia over the Ogaden area; (2) considerable outlays connected with the new 3-year development program (1979-81)—mostly for projects carried over from the previous development program; (3) the increasing cost of petroleum imports; (4) a continuing drought that has badly hurt agricultural output, reduced commodities for export, and cut foreign exchange; and (5) the cost of sheltering people displaced by the drought and refugees from the disputed zone, a total that is currently estimated at 1.5 million people and is still growing.

There appears to be no near-term solution to these problems, and the fate of the refugees as well as of many native Somalis depends upon the generosity of the international community. For cereals alone, the import needs for 1981 have been estimated at 600,000 tons, compared with 390,000 tons in 1980. Some 107,000 tons have been supplied commercially and about 184,000 tons in food aid have been allocated, committed, or shipped, leaving a large uncovered balance. Of the total food aid supplies in 1981, the United States has to date provided 89,800 tons—15,000 tons of Title I wheat, 10,300 tons of Title I rice, 15,300 tons of Title I coarse grains, and 49,200 tons of Title II coarse grains.

Agricultural Production

Last year was the second consecutive one with poor harvests because of dry weather. The 1980 corn and sorghum crops have been estimated below the poor 1979 output. The 1980 drought that affected the main season

(gu) harvest in August, continued into 1981 and resulted in a considerable failure of the secondary (der) harvest in January and February. The drought was so severe that it caused Somalia's two largest rivers to dry up, something that has not occurred since 1950. Relief finally came in March 1981, when the spring rains arrived early and more precipitation fell in a week than normally falls in a month. This flooded refugee camps, but planting was begun. However, early rains do not necessarily mean sufficient water. Rains must be heavy, timely, and sustained for a good fall harvest.

Agricultural Policy

Somalia has had an agriculturally oriented development policy. But during the first 2-year development plan, which ended in 1978, only about 61 percent of projects were completed, because of the very destructive 1974-75 drought. The first Plan work was to be carried on with a new 3-year development plan—1979-1981—which was designed to complete projects left undone. Some 7 billion shillings (U.S. $1.1 billion) were allocated, but two-thirds of the actual financing depended on foreign funding, half in the form of grant aid. With its intervening problems, the country is now even more dependent on external aid.

Agricultural Trade

In 1978 livestock and livestock products provided 97 percent of Somalia's total exports. Bananas, the second largest export, brought an additional 2 percent. The 1980-81 drought practically eliminated the banana crop and will probably hurt livestock production for several years to come.

In 1979 Somalia exported $107 million, over 99 percent agricultural. Imports totaled $398 million causing a further deterioration in the trade balance with a deficit, 74 percent larger than in 1978. Currently, statistics on Somalia's 1980 trade are not available, but because of the high cost of petroleum imports, the need for more food imports, and the known drop in exports, Somalia's terms of trade are sure to worsen at an alarming rate.

The value of U.S. agricultural exports to Somalia in 1979 and 1980 amounted to $20.8 million and $44.7 million, approximately two-thirds grains and one-third vegetable oil. In recent years the United States has imported only small amounts of farm items from Somalia, principally hides and skins.

Outlook

Economic progress for Somalia depends on good weather for several seasons, and a resolution of the Ogaden conflict, to allow the return of the refugees to their tribal areas in Ogaden. Even with some economic progress, Somalia will continue to depend heavily on international assistance.

Although there has been a Somali market for equipment and services for agro-business, exporters to Somalia are now faced with the fact that development projects have been slowed and drought has increased the need for food imports, which use up scarce foreign exchange. Exporters are further hampered by the relatively small size of the Somali market, a shortage of skilled labor, poor communications and transportation, and a shortage of raw materials.

U.S. agricultural exports will necessarily take the form of Title I or Title II commodities, given Somalia's critical shortage of foreign exchange. (H. Charles Treakle)

Sudan

The Economy

For the last several years Sudan has faced difficult financial pressures. These became even more severe during 1980, requiring debt rescheduling and the implementation of a stabilization program. A host of negative factors—including a deteriorating balance of payments, a rapidly increasing debt service, a faltering infrastructure, a costly development program, and a growing refugee problem—have plagued the economy. In addition, the Sudan is faced with esclating inflation that stimulates demands for higher wages.

On the other hand, some crop output has improved and prices are much higher. This year may be the first that Sudan will earn more from oilseed exports than from cotton. Some newly completed development projects are coming on stream. The road from Khartoum to Port Sudan is now usable and the Kenana sugar complex was inaugurated March 3, 1981. Sudan also has possibilities of finding more oil, but so far the strikes have been modest.

New investment programs have been shelved for at least 3 years to enable completion of already started projects such as the Rahad agricultural scheme, the Asalaya sugar mill, the Atbara cement factory, railway rehabilitation, and upgrading for power generation. The last is desperately needed to cut down on power outages, which greatly reduce industrial output.

Agricultural Production

Agriculture is by far the leading economic sector in Sudan. It contributes between 35 to 40 percent of the gross value added, and comprises over 95 percent of the exports and employs over two-thirds of the labor force. The value added is almost equally divided between crops and livestock, with a small amount attributable to forestry, hunting, and fishing.

During 1980, some firsts were achieved: the Asalaya sugar mill came into production, as did Kenana. Although these mills did not make a substantial contribution to Sudan's 1980 sugar needs, they are evidence that the country is on its way to becoming self-sufficient in sugar and possibly an exporter. The Rahad irrigation scheme is going ahead as planned. In 1981, the 126,000-hectare first stage will be completed. This stage allocates over 58,000 hectares to cotton, over 43,000 hectares to peanuts, almost 16,000 hectares to fodder, and over 3,000 hectares to roadways and grazing.

Wheat production in 1980 is estimated at 200,000 tons, but because the yields are low wheat is not being pushed in the current program. The 1980 sorghum harvest of 2.5

million tons was a good crop, and some sorghum is available as a valuable export. A late estimate for peanuts—787,000 tons—was slightly down, and sesame was also lower than the crop of 1979. Higher prices make these oilseeds valuable foreign exchange earners.

Cotton has been on the decline in recent years, losing out to higher income crops. Not only has less been planted but the yield has been dropping, with output reaching a low (141,000 tons) in 1980 that had not been seen since 1957. Production in 1981 is expected to be even lower. Although changes are forthcoming, cotton has been bearing increased costs of water, fertilizer, pesticides, and other inputs, all of which reduce profits and make cotton less attractive to grow.

Agricultural Policy

Old age has begun to affect the Gezira project, once called the "largest farm in the world." This 860,000 hectares (2.1 million acres) project must be rehabilitated, and studies and work to solve the scheme's production problems began in earnest in 1980. The government policy for rebuilding the Gezira scheme is divided into two programs. The first, financed through loans from the World Bank and the EC, amounts to $33.5 million and is scheduled to be completed by 1982. This will renew and improve the irrigation network, replace equipment and machinery, and improve transport, shipping, and storage facilities. The second phase will complete the work of fully rejuvenating the scheme, with a similar loan program at some $200 million.

To promote cotton output, a change has been made in the cotton marketing system. Cotton is purchased from the farmer when it is delivered to the gin, and the input costs are immediately deducted so that the producer gets prompt payment. Also, where there are financial problems, farmers' debts are suspended and a 10-year repayment schedule set up.

Agricultural Trade

In 1979, Sudan exported some $840 million, over 95 percent agricultural—principally cotton, peanuts, sesame, live animals, and gum arabic. Imports were $1.1 billion and, with the exception of tea and wheat, were mainly nonagricultural. U.S. agricultural exports were $51.7 million in 1979 and $65.7 million in 1980. Over 76 percent of the exports were wheat and wheat flour. U.S. agricultural imports were $3.7 million in 1980, mostly hides and skins. In 1979, the United States was the third largest supplier of Sudan's imports, following the United Kingdom and West Germany. By the middle of 1981, Sudan exported about 19,000 tons of peanuts to the U.S. at a price close to $2000 per ton. U.S. agricultural imports from Sudan will show at least a tenfold increase in 1981.

Outlook

Although Sudan will continue to be a market for wheat and wheat flour, other possible trade will be for nonagricultural items. There will be trade opportunities in equipment and parts for agribusiness ventures, for industry, in meeting individual consumer demand. However, a scarcity of foreign exchange will continue to hold trade to a modest level.

Sudan is studying solar energy and a solar-powered desalination plant near El Obeid is being considered. Total petroleum output has been helpful in meeting some domestic demand, but there is no clear promise that oil will bail Sudan out of all its financial problems.

In the short term, Sudan will continue to be plagued by cash flow problems, plus a shortage of foreign exchange and skilled workers. Conversely, discounting political risk, the simplified investment code promulgated in 1980 eliminates disincentives of earlier laws and projects optimism for ventures by investors. With more projects showing a return and more attention being given to upgrading existing operations, Sudan's economy could show real improvement in the next several years. (H. Charles Treakle)

Tanzania

The Economy

Tanzania's economic crisis deepened in 1980, a result of both internal and external causes. Production of food and export crops declined because of bad weather; the debilitating burden of oil imports continued to grow; prices for Tanzania's principal export crop, coffee, fell; the money supply expanded sharply for the second consecutive year and inflation reached 20 percent in the first half of the year. In addition, the presence of Tanzanian troops in Uganda represented another load on an already fragile economy.

Economic growth is severely constrained by foreign exchange shortages and Tanzania's increasing balance-of-payments deficit. Oil imports now consume around half of total export earnings, and these earnings stagnated in the 1970's. At a severe cost to economic growth, Tanzania has cut oil use substantially by austere conservation methods. Since 1972, the oil import bill has climbed from about $32 million, 10 percent of export earnings, to $268 million in 1980, about half of Tanzania's export earnings. Interestingly, in volume, imports of both crude petroleum and petroleum products were lower in 1980 than in 1973. In 1981, the cost of oil imports is expected to increase by 20 percent because of the cutoff of concessional supplies from Iraq.

In September 1980, the IMF concluded a standby arrangement with Tanzania to provide a loan for balance-of-payments support. Despite problems in meeting IMF requirements to curb public spending and credit use, a larger agreement was being negotiated during 1981. Export rehabilitation will remain a priority. Tanzania continues to receive high levels of aid from a number of donors, perhaps reflecting the country's stable political situation and sympathy for its egalitarian aims. Nevertheless, donors have expressed concern with the high level of government spending and involvement in the economy.

Tanzania's fourth 5-year plan is scheduled to begin in July 1981. No major changes in general policy have been

made from the previous plan. Industrial expansion will again be given priority although agriculture will continue to dominate the economy. The level of government investment in agriculture is to increase slightly to 12.4 percent of the total (compared to 25 percent for industry). Offshore natural gas deposits were discovered in 1980, but so far no oil has been found. There are plans to build a large fertilizer complex utilizing this gas.

Agricultural Production

This year Tanzania faces its worst food crisis since 1974-75. President Nyerere personally warned the nation in March 1981 that unlike the earlier period, this time foreign reserves are inadequate to finance commercial imports. The current deficit will have to be met by concessional food aid. Drought has reduced 1980/81 (June-May) purchases of corn, wheat, and rice by the National Milling Corporation (NMC) to about half the average of the previous 3 years. Normally self-sufficient rural areas are experiencing shortages, increasing the demand for NMC supplies. Distribution of relief supplies as well as procurement of crops is hampered by Tanzania's deteriorating transportation system.

Corn purchases by the NMC during 1979/80 amounted to 160,000 tons, a decrease of 28 percent from the record of the previous year. About 29,000 tons were imported. However, NMC sales increased greatly to 235,000 tons, lowering stocks to only 16,000 tons at the beginning of the 1980/81 season. Since then continued dry weather has kept output low and initial estimates of NMC corn purchases for 1980/81 were only about 95,000 tons.

Large corn imports were essential in 1980/81, approaching the record 1974-75 level of 290,000 tons, and they will have to continue to prevent hunger. In addition to NMC stocks, Tanzania tries to maintain a strategic grain reserve of about 65,000 tons of corn and wheat.

Rice plays a much smaller role in Tanzania's agricultural sector than does corn, but is an increasingly popular urban food. NMC purchases of rice, which represents a small proportion of total production, were about 30,000 tons in 1979/80, slightly down from the previous year. Imports were about 43,000 tons. In 1980/81 rice purchases may total as low as 13,000 tons, and shortages have been reported despite nearly a doubling of imports.

Wheat was probably less affected by drought in the last 2 years than other food grains. NMC brought approximately 26,000 tons in 1979/80 and imported 33,000 tons, well below actual demand. Like rice, wheat is gaining popularity in the cities, and imports regularly meet over half of consumption. The current estimate of 1980/81 NMC purchases is about 25,000 tons.

In recent years, the Government has encouraged production of the more drought-resistant millet, sorghum, and cassava, by offering relatively high support prices for these traditional subsistence crops, although these foods are not as favored by consumers. In early 1981 NMC stocks were over 100,000 tons of millet, sorghum, cassava, beans, and pigeon peas. These stocks may be vital to avoiding famine. However, as much as 20 percent of stocks may be unfit for human consumption.

Coffee production in 1980/81 was curtailed by dry weather and will probably be about 51,000 tons. Still, this is an improvement over the previous year, when heavy rain reduced output. Since the world price for coffee was weak in 1980, export revenues were disappointing. Cotton, the second leading export by value, was also affected by drought. Production in 1980 decreased to about 50,000 tons. Although world prices have been favorable, increasing domestic use limited exports to about 33,000 tons.

Tea is one of the few export crops for which production has been increasing during the 1970's. Output in 1980 apparently was slightly lower than 1979's record 17,900 tons. Tanzania is now the fourth largest tea producer and exporter in Africa, but coffee, cotton, sisal, and cloves exports were more valuable in 1980. Similarly, tobacco output has been increasing, but total production in 1980 dropped slightly to 24,100 tons. Tanzania has decided to limit production in the future to 18,000 to 20,000 tons because of soil exhaustion and processing problems caused by a shortage of fuelwood. Zimbabwe's re-entry into the world market probably was another factor.

Agricultural Policy

The most important policy change has been the emphasis on export rehabilitation. Stagnant production has been costly considering the current high price for some Tanzanian exports such as sisal, pyrethrum, and cashews. Producer prices for 1980/81 were raised for nearly all cash crops. Furthermore, the Government has pledged to pay farmers on the spot for deliveries to crop authorities, and otherwise to improve parastatal efficiency. Because of frequent shortages of inputs, the Government also announced in early 1981 a plan to set aside 15 percent of foreign currency earned from the crops to finance production expenses. Also, the export taxes on sisal and coffee were eliminated, along with the production tax on tobacco.

In early 1981 the World Bank's International Development Association (IDA) concluded a $50 million agreement to support Tanzania's export rehabilitation program. This would help finance imports necessary to assist the rehabilitation. A large IDA credit was already approved in 1980 to assist the Tanzania Tea Authority to improve and expand smallholder production and processing. West Germany agreed to provide substantial funds to revive the sisal industry in 1980. In addition to large capital expenditures, wages for sisal cutters were raised 31 percent. These efforts should prove helpful, but results will be slow. For example, new plantings of perennial crops like sisal and coffee will not be ready for harvest for a few years.

The official producer price for corn for 1981 has been raised to T. Sh. 1.50/kg. (about $180 per ton), nearly the same as Zimbabwe's official price. In mid-1981, the Government announced a reduction in the subsidy on corn flour and a subsequent doubling of the official retail price. This should encourage more consumption of the less popular drought-resistant crops. Expansion of the stategic grain reserve capacity to 145,000 tons will probably be completed soon if construction materials are available.

Agricultural Trade

Imports of food grains have been heavy in 1980/81 and are estimated at 385,000 tons. Estimates for the main commodities are: 262,000 tons of corn—192,000 on a commercial basis from the U.S. and 70,000 on a concessional basis from sources including the U.S., Thailand (financed by Japan), Yugoslavia, Holland, and the EC; 78,000 tons of rice, most on a concessional basis from the U.S. and Japan; 44,000 tons of wheat, apparently all as aid, including 25,000 tons from Australia and smaller amounts from the EC, Canada, France, Spain, and West Germany.

The heavy outlay for commercial imports has been a severe burden. Transport costs alone for U.S. corn to East Africa exceed $100 a ton. Because of the foreign exchange crunch, commercial food imports will likely require financial assistance for the remainder of 1981.

The value of U.S. agricultural imports from Tanzania decreased by nearly 40 percent in 1980 to $24 million. Virtually all this drop is accounted for by coffee, of which only 3,758 tons were imported. Other U.S. imports include cashews and tea. U.S. agricultural exports to Tanzania in 1980 were $37.8 million, with corn at $29.6 million.

Outlook

In May 1981, Tanzania announced that its troops would begin withdrawing from Uganda. This will relieve a major economic burden for Tanzania. However, the overall economic forecast is still not very bright. Little relief from increasing oil costs can be expected, and the price outlook for some of Tanzania's main exports, such as coffee and tea, is not good for 1981. Prices for cashews, sisal, pyrethrum, and cotton, however, are likely to be stronger.

The extended dry conditions affecting Tanzania in the last 2 years may be over. However, the long rainy season was seriously delayed in some areas, and the crop outlook in early 1981 could best be described as mixed, with a continuation of food shortages. (Peter A. Riley)

Southern Africa Region

Botswana, Lesotho, and Swaziland—the "BLS" countries—are three Southern African nations frequently grouped because of a number of similarities. All three are landlocked, have small populations, were British protectorates that became independent between 1966 and 1968, and have economies heavily dependent on the Republic of South Africa. All belong to the Southern African Customs Union along with South Africa, although each has recently introduced its own currency. None is food self-sufficient and all rely on South Africa as their main supplier. Since the independence of Zimbabwe in 1980, the BLS countries have participated in the Southern Africa Development Coordination Conference aimed at lessening economic dependence on South Africa and strengthening links among nine black states in the region. While this effort has long-term potential for change, in the near future the BLS countries will continue to rely on South Africa, especially in transportation, communications, and trade.

Botswana Economic Background

Botswana's mineral exploitation started during the 1970's and led to dramatic growth in the economy. According to the World Bank, the country registered a 13.2-percent real growth rate in per capita GNP from 1970 to 1978. However, Botswana's population is small, estimated at about 800,000 in 1980. The chief mineral exports by value are diamonds, copper, nickel, and coal. The long-term outlook for coal exports is very good if new rail links are built.

Although Botswana has a strong balance-of-payments surplus, large foreign investment, and receives foreign aid, there are problems. Inflation is accelerating rapidly. Unemployment is widespread because capital-intensive mining has created relatively few jobs. At the same time, there has been tremendous growth in urbanization. One of the objectives of the Arable Lands Development Program is to improve production on small farms and improve rural employment opportunities. As many as 60,000 men still work in South Africa.

Agriculture

Agriculture's contribution to GDP has declined from about half to under a quarter in the last 10 years with the rise of the mineral sector. Botswana is largely semiarid. Cultivable land is very limited and yields are generally low.

Conditions are more favorable for livestock production, which dominates the rural economy. The national cattle herd is estimated to be around 3 million, mostly raised extensively. Botswana's beef industry continues to expand. The Botswana Meat Commission accounts for 80 percent of slaughter and for all exports. Procurement from both traditional and commercial sources is quite efficient, although total offtake is low. Disease control is normally good; foot and mouth problems of the last 3 years were partly due to the breakdown of veterinary controls in neighboring Zimbabwe during the guerilla fighting. Current plans call for construction of two smaller abattoirs at Maun and Francistown to supplement the present plant at Lobatse. These could be operational by 1983.

After a depressed 1980, this year promises to be good for Botswana's main agricultural export, beef. Botswana is Africa's leading exporter of beef, mostly in boneless form. In 1980, because of an outbreak of foot and mouth disease, the EC, Botswana's leading customer, suspended imports. The number of cattle slaughtered dropped by nearly 40 percent to 140,783, and export earnings from beef reached only about half the record 1979 level of $105 million. Angola became Botswana's biggest market followed by South Africa. Foot and mouth disease is now under control and the EC is expected to resume imports during 1981.

After 2 years of drought-reduced crops, in 1980/81 sorghum and corn output is up by at least one-third, with early estimates of the two crops at 42,000 tons and 15,000 tons, respectively. However, imports of corn in

1981 may reach 70,000 tons, about 82 percent of consumption, and imports of sorghum, 10,000 tons, about 16 percent of consumption.

The 1980/81 rainy season has been above average in Botswana, resulting in good grazing and stockwater. Cattle slaughter is projected to reach about 230,000 head in 1981. This year producer prices have been raised, and a more streamlined grading system has been introduced to promote well finished animals for overseas markets.

Leading Markets for Botswana boneless beef

Country	1978		1979	
	Metric ton	% of total sales	Metric ton	% of total sales
United Kingdom . . .	4,497	22	15,038	47
Angola	2,977	14	9,034	28
South Africa.	6,336	30	3,800	12

Source: Botswana Meat Commission.

Lesotho Economic Background

Lesotho is a small, mountainous country of 1.3 million people, surrounded by South Africa. It is the poorest of the BLS countries, with little industry or mineral development aside from a small diamond mine. Lesotho's most important source of foreign exchange is remittances from migrant laborers in South Africa. Approximately 125,000 men work in the South African mines and perhaps another 25,000 in factories and farms—as much as 40 percent of the economically active male labor force. Increases in these remittances, however, have contributed to strong growth in real GDP in the late 1970's. Revenues from the Southern African Customs Union, foreign aid, tourism, and some private investment help to offset a large trade deficit. Although there is excellent hydroelectric potential, it is still untapped, and all oil and electricity are supplied by South Africa.

Agriculture

Agriculture is small scale, subsistence level. Only 13 percent of the land is arable. Roughly three-quarters of Lesotho is 6,000 to 11,000 feet above sea level. The cool temperatures and rugged terrain set Lesotho apart from most African agriculture. Corn, sorghum, wheat, peas, and beans are the main crops, but nearly half of all food regularly is imported. Livestock rearing dominates agriculture. The national herd estimate in 1980 was approximately 950,000 sheep, 650,000 goats, and 540,000 cattle. Wool and mohair are the only significant agricultural exports, averaging 2,200 tons and 500 tons per year respectively during 1975-79. Both are marketed through South Africa. Overstocking is a big problem, although with government encouragement the number of sheep has decreased over the last 3 years. Mohair quality is reportedly down because of poor breeding and nourishment.

In December 1980, a national food emergency was declared by Lesotho authorities because continued drought had seriously hurt 1979/80 production. Initial forecasts for the 1980/81 season were pessimistic too, because the rains started late and were erratic up to February 1981. However, at that point rainfall increased and the corn and sorghum production outlooks improved. Sorghum output is estimated at 62,000 tons, about average, and corn output is estimated above the 1977-79 average of 133,000 tons. The 1980 drought affected the wheat crop and output may be as low as 14,000 tons, compared to a normal crop of 60,000. Wheat is generally grown at higher altitudes than corn and sorghum and also partly grown in the winter season. In 1981, grain imports could be as high as 150,000 tons with over one-half wheat. South Africa is the main supplier, and the World Food Program usually provides around 10,000 tons.

A number of constraints restrict agricultural development in Lesotho. These include the shortage of male labor on the farms, overgrazing and soil erosion, and little use of modern inputs. The Government has begun some reforestation projects and the Basic Agricultural Services Program to facilitate use of modern inputs. But the relatively high off-farm wage rates in South Africa are hard to overcome.

Swaziland Economic Background

Swaziland's export-oriented economy has grown steadily during the 1970's, building on a good natural resource endowment. However, most of this growth was accounted for by the modern sector, while the sizable subsistence sector developed more slowly. Swaziland is a small nation with a population of only 550,000, yet it exports a number of commodities: sugar, wood pulp, timber, asbestos, canned fruit, and fresh citrus fruit were the most important in 1980. Iron ore exports ended in 1980 as the main deposits were exhausted, and asbestos may be depleted shortly. However, pending construction of a rail spur, the future for coal is favorable, both for export and for thermal power. In general the EC is the major export market, but South Africa, the Middle East, and others buy significant amounts.

Agriculture

Swaziland is not self-sufficient in food. Corn, the staple, plus milk, vegetables, and wheat flour are imported from South Africa. The traditional sector accounts for approximately 40 percent of total agricultural output. Corn is the chief crop and livestock holdings are large. The offtake from the herd is low, although Swaziland

may have the highest stocking rate in Africa. This has led to severe overgrazing and deterioration of communal grazing areas. The structure of agriculture is dualistic. Important commodities produced by the modern commercial farms are sugar, citrus, pineapples, timber, cotton, rice, and cattle. Sugar is Swaziland's most valuable export, and the sugar industry the largest employer. Unlike South Africa, most sugar in Swaziland is irrigated and was not affected by dry conditions in 1979 and 1980. With expansion of the existing Mhlume mill by 50,000 tons and the addition of the Simunye mill, Swaziland's sugar capacity should total 400,000 tons a year by 1982.

The biggest development in 1980 was the opening of Swaziland's third sugar complex at Simunye, a successful project financed by diverse sources. Simunye's capacity of 120,000 tons of raw sugar a year could be reached by 1982. Swaziland is currently Africa's fourth largest sugar exporter. Total sugar exports were over 235,000 tons in 1979, and rose to 316,000 tons in 1980. Exports should increase again in 1981. The U.S. is Swaziland's second largest buyer of sugar, after the UK—both under quota systems. The value of U.S. sugar imports in 1980 was $57.8 million, more than double the 1979 level because the unit price increased.

The 1980/81 crop season for the main food, corn, was good. As in most of Southern Africa, heavier rains in Swaziland marked the end of the drought which cut the previous year's crop. The current estimate for corn production is 95,000 tons, slightly over normal, leaving an import requirement of about 35,000 tons. There have been some food shortages in early 1981, chiefly of fresh vegetables, because Swaziland temporarily banned food imports from South Africa after reports of cholera there. (Peter A. Riley)

Angola

The Economy

The economic situation in Angola generally improved in 1980; however, many sectors have not recovered to pre-independence levels. Petroleum has been the growth area of the economy, with production increasing from 130,000 barrels a day in 1979 to 160,000 in 1980. Output is expected to double by 1985.

Diamond production also increased last year—exceeding 1 million carats for the first time since 1975. Output in 1980 was estimated at 1.5 million carats, up from 840,000 in 1979. These two factors have helped cushion foreign exchange loss from the sharp drop in coffee exports.

Agricultural Production

Angola's index of agricultural production has fallen to 55 percent of the 1969-71 base. This largely reflects a decline in the coffee crop from over 200,000 tons in the early 1970's to 21,000 tons in 1980. The index of food production, which excludes coffee, now stands at 81 percent of the base period, indicating a much less serious decline in food output during the post-independence period. The per capita index of food production stands at 67.

Over the last several years, Angola has been experiencing serious food shortages in urban areas. A number of factors have contributed to these shortages. First, grain production has declined, with an even sharper drop in marketing of the crops. Purchases of grain, mostly corn (the staple food), amounted to 334,000 tons in 1973 but fell to less than 20,000 tons in 1979. Little improvement was noted in 1980. Commercial production of most other food crops has shown a similar drop. Paddy rice marketings are only 5 percent of the 1973 level, wheat is 11 percent, dry cassava 12 percent, and dry beans only 3 percent.

Second, disruptions in the marketing system have made it difficult to supply the urban population and refugees of the civil war. The transportation network is inadequate for moving food from surplus to deficit regions. An estimated 800,000 people who fled into the forest have returned to the provinces of Huambo and Bie. In many rural areas, lack of consumer goods has been a disincentive to increased agricultural production. The Government is now supplying items for barter and purchase. In urban areas, many of the outlets that handled food were abandoned when the Portuguese left in 1975. Government attempts to re-establish wholesale and retail outlets have moved very slowly. Urban populations have therefore had to rely on imported food, while rural areas are depending more on root crops. Unfavorable weather during the last 3 years also contributed to smaller harvests.

Agricultural Policy

To improve agricultural production the Government has announced a number of measures to be implemented during 1981-85. Support for the small farmers will continue, since they provide an important part of the agricultural products sold in the local markets. In the long run, the Government still hopes to integrate the small farmers into the government-controlled socialist sector, which now consists of the large commercial farms abandoned by their owners and turned into state farms. Over the next 5 years the goal for the state farms is to consolidate their gains by selecting the best production units and concentrating scarce human and financial resources in them. These policies are intended to contribute to the short-term recovery of output of livestock products, vegetables, cotton, coffee, sugar, vegetable oils, and fruits.

Agricultural Trade

Official data for the first 6 months of the year indicated that Angola would export about 48,000 tons of coffee worth $160 million in 1980, down from the 60,000 tons exported in 1979. The main buyers of Angolan coffee are the United States, Netherlands, Portugal, Algeria, East Germany, and the Soviet Union. Exports have been higher than production levels of recent years, indicating that Angola continues to draw on stocks. Recovery of coffee exports is foreseen in the next few years. Angola no

longer exports significant quantities of other agricultural products.

During the last few years, Angola's food imports have increased rapidly. Wheat, a traditional import, has remained at about 100,000 tons. The country has changed from a corn exporter to an importer of 100,000-150,000 tons annually. Rice imports are estimated at 10,000-20,000 tons.

Outlook

The short-run outlook for a solution to production and marketing problems is not good. In the long run Angola has good agricultrual potential and should be able to resume its role as a net exporter of agricultural products. Recent reports indicate that the 1981 harvest has been reduced by drought. Corn output is expected to be significantly below 1980. The drought was particularly severe in the south where livestock is suffering from lack of pasture and water. (Margaret B. Missiaen)

Madagascar

The Economy

In 1980 economic growth as measured by GDP slowed in Madagascar. In 1979, the growth rate was estimated at 10 percent. It fell to less than half that in 1980. The agricultural sector, which contributes 40 percent of GDP, was largely responsible for the increase of the last 2 years. Prior to that, in 1976-1978, poor harvests had caused negative growth. Erratic weather causes agricultural output to vary widely from year to year.

In recent years, Madagascar's balance of payments situation has deteriorated rapidly as the country has been affected by changing world prices. The rising of petroleum import costs has come at a time when prices for Madagascar's main exports—coffee, vanilla, and cloves—have been constant or declining. In 1979, exports covered only 61 percent of imports, compared with 97 percent in 1977. Coverage in 1980 was probably even lower because of the cutoff of petroleum supplies from Iraq, which forced Madagascar to purchase oil on the spot market at much higher prices.

The Government has gone heavily into debt to finance an ambitious investment program, which focuses on 77 industrial projects. In 1980, Madagascar's foreign debt rose from $580 million to $690 million. At the same time, the debt service ratio (interest/export receipts) hit 25 percent, and the Government account in the Central Bank shows a deficit equivalent to a year of revenue from the general budget.

Agricultural Production

Rice is by far the most important food crop in Madagascar. Per capita rice consumption is now about 180 kilos per year, one of the highest levels in the world. Rice supplies well over half of the calories in the average diet. Despite good harvests in 1979 and 1980, more than 150,000 tons of rice had to be imported each year. Domestic production has not been able to keep up with the rapidly increasing demand partly because rice cultivation is being expanded onto less productive land. In addition, lack of a good transportation network often hampers shipment of rice from surplus to deficit areas.

Coffee is Madagascar's most important cash crop, accounting for 40 to 50 percent of total export earnings. Coffee production has increased significantly since 1978, when poor weather reduced the crop to 43,000 tons. Production is expected to average between 80,000 and 90,000 tons during the next few years, as trees planted in the mid-1970's begin to bear fruit. Vanilla production continued to recover from the low level of 1978. The crop was estimated at 1,200 tons in 1980, compared to 800 in 1979. Vanilla has usually been Madagascar's second largest agricultural export. Clove production declined sharply to 7,000 tons, reflecting the cyclical nature of the crop.

Agricultural Policy

In the past, government policy has been to hold down prices in order to provide cheap food to consumers and maximize government earnings from export crops. However, the rice pricing policy, which fixes producer and retail prices as well as marketing, processing, and wholesale margins, has been very costly for the Government. In 1977, the official retail price of rice was reduced from 26 cents to 22 cents per kilo. At the same time, demand increased sharply, forcing the Government to import more than 130,000 tons of rice—a 50-percent increase over the previous year. In July 1980, both the consumer and producer prices for rice were raised. The official retail price is now 30 cents a kilo, while the producer receives about 20 cents per kilo. In spite of these increases, the Government still has to subsidize consumer purchases by about 5 cents a kilo for domestically produced rice and 8 cents a kilo for imported. Producer prices for coffee and vanilla were also increased in 1980.

Agricultural Trade

Madagascar's coffee exports increased from 50,000 tons in 1977 to 63,000 in 1979, and preliminary data indicate another increase in 1980. These were well below the record exports of 73,000 tons in 1976. The country's foreign exchange earnings depend more on the world coffee price than on the quantity sold. Coffee prices, which fell sharply in 1978, recovered somewhat in late 1979 and early 1980 but fell again in the last half of the year. For the last 3 years, Madagascar's earnings from coffee have stabilized at $160-$170 million annually. Receipts for 1980 should have been at this level as increased export volume offset lower prices.

Vanilla exports recovered slightly in 1980 after the unusually low level of 1979. Both quantity and price contributed to this increase. Clove exports were much reduced in 1980 because of an off-year in the production cycle.

In spite of the good rice harvest, Madagascar is estimated to have imported 150,000 tons of rice in 1980, down from 175,000 tons in 1979. Rice imports have increased rapidly during the last 10 years, putting additional strain on foreign exchange reserves. Vegetable oil imports have also risen significantly in recent years.

Outlook

The 1981 outlook is unfavorable. Yields from the main season rice crop harvested in May are likely to be disappointing. Many rice growing areas were affected by delayed and erratic rains at the beginning of the season. Abnormal rainfall patterns continued throughout the season, with some regions experiencing excessive rainfall while drought prevailed in other areas. A poor harvest will mean increased imports during the coming year, possibly as high as 200,000 tons, thus further depleting Madagascar's foreign reserves. While the volume of coffee exports will increase, earnings will remain about the same because of low world prices.

The increasing cost of petroleum imports will cause further deterioration in Madagascar's balance of payments. (Margaret B. Missiaen)

Malawi

The Economy

Malawi's real growth in 1980 was less than 1 percent, a sharp contrast to the average growth of 6.6 percent from 1970 to 1979. Malawi's economy remains nearly wholly based on agriculture and the processing of agricultural products. Over 70 percent of the economically active population earns a livelihood in agriculture, one of the highest proportions in Southern Africa. With consumer prices increasing nearly 20 percent in 1980, the Government allowed a large increase in the minimum wage, which is now about 75 cents a day.

Malawi is a small country with high population pressure on farming land, and without significant mineral and energy resources. Its agriculture must support the economy but is faced with very high costs of gasoline, fertilizer, coal, and other inputs. Malawi's record of agricultural growth is good. According to ERS estimates from 1954 through 1980, agricultural production increased by an average of 4.3 percent a year.

Agricultural Production

Malawi's agricultural production dropped 7 percent in 1980 and sugarcane may have been the only major crop to increase. Sugar has become a major export in 1980, exceeding tea in value for the first time. Corn production was down for the second year in a row, as it again suffered from drought damage, which was concentrated in the south.

Although it has sufficient water supplies under normal conditions, Malawi, with its very high dependence on corn as the staple food, is highly vulnerable to food shortages during a dry year. Wheat consumption remains at a low level, and little corn is fed to livestock. When corn supplies are low there are few alternative crops for direct human consumption.

The Agricultural Development and Marketing Corporation (ADMARC) is the major marketing organization and is charged with servicing smallholders. Its domestic purchases give an indication of production levels in Malawi. A recent peak was the 229,429 tons purchased in 1978, which included record levels of:

Corn	120,617 tons
Rice	30,816 tons
Cotton	24,218 tons
Tobacco	23,742 tons

Purchases of peanuts were, however, very low—at 11,130 tons. In 1979, which was a poor year, purchases totaled only 180,467 tons. Production recovered slightly in 1980, with purchases as follows:

Corn	91,792 tons
Peanuts	31,333 tons
Cotton	23,131 tons

Total purchases were 192,613 tons, with rice and tobacco at low levels. Corn purchases from 1977 through 1980, while showing large yearly variations, exceeded those of 1976. This is also true for cotton purchases, which have shown the least variation.

Wheat production is estimated at 1,000 to 2,000 tons. Imports are estimated at about 25,000 tons a year. South Africa has been a supplier, and surplus soft wheat is received from Europe. From 1970 to 1980 tobacco sales in Malawi increased by nearly 2-1/2 times, with 1980 sales at 54,410 tons. However, in 1980 the value of sales dropped to K 59.2 million, the lowest since 1976 (1K= $1.23). Tea production, at 29,915 tons, was down for the first time since 1974. Prices at tea auction sales at Limbe have shown a downward trend since the boom year of 1977.

Sugar production increased by nearly 60 percent, to about 148,000 tons during 1980, compared with an average production of 31,000 tons during 1969-71, evidence of the rapid development during the past decade. The latest sugar project, Dwangwa, involved several external as well as domestic investors. The value of sugar exports increased to slightly over K 36 million in 1980.

Agricultural Trade

Malawi is landlocked and therefore has problems transporting commodities to a seaport for export. It faces similar problems in importing its goods. For example, the economy nearly stopped when petroleum shipments from Mozambique were temporarily cut off by sabotage.

Difficulties in exporting have harmed the competitive position of Malawi's tobacco. The timing of exports is difficult. Two months may be required to reach the port. Shipments may be split up. Language and literacy prob-

lems add to the difficulties with transporters in Mozambique. Malawi's freight costs to ports are higher than those of Zimbabwe, a competitor in a number of agricultural exports.

In 1978 and 1979, Malawi's trade deficit increased sharply. In 1979, imports exceeded exports by K 136.2 million. Even in the commodity boom year of 1977, when most of Malawi's agricultural exports were at or near record values, a trade deficit of K 29.4 million was incurred.

In 1980, exports were up, mainly because of increased sugar volume and prices. The 1980 export values of all major agricultural products except tea exceeded 1979 levels. The combined share of tobacco and tea exports dropped to 60 percent of total value of commodities exported. With the unit value of exports only increasing by 4.5 percent while imports jumped by 31.1 percent, the terms of trade dropped to only 53.1 compared to 100 during the base period 1970.

U.S. agricultural exports to Malawi were only $465,000 in 1980, mostly grain and preparations. Exports will rise considerably in 1981 as a P.L. 480 agreement provides for shipment of yellow corn worth $2.4 million. Prior to 1980, Malawi had not required significant corn imports since 1970.

U.S. agricultural imports from Malawi were again about $22 million in 1980, with sugar accounting for $14.8 million. Tobacco and tea were other important items. Some 14 percent of Malawi's tobacco exports came to the United States. U.S. General Systems of Preferences duty-free imports from Malawi were valued at $6.5 million in 1980.

Outlook

The 1981 outlook is for improved production of major crops such as corn, tobacco, and peanuts. Sugarcane production is again expected to increase. Another major step will be taken by Malawi's sugarcane industry. Production of ethanol for blending with gasoline will begin, using molasses from the Dwangwa sugar mill.

The biggest question for Malawi's agriculture in 1981 is the export market. Sugar and tea prices dropped in early 1981. Tobacco auction prices were up early in the season, running above the depressed levels of 1980. Peanut prices have been strong in world markets.

For 1981/82, agriculture's share of the development budget was increased to about 26 percent, compared with its 1974-79 average share of 19.4 percent. (Lawrence A. Witucki)

Mauritius

Mauritius' economy showed no growth in 1980 after a 5-percent increase in GNP during 1979. Per capita GNP is estimated at $831 for 1980, slightly down from 1979. The economy is heavily dependent on the sugar industry, which contributes between a third and a half of the GNP.

In 1980, sugar production fell sharply following cyclones which damaged the sugarcane fields early in the year. Output was 475,000 tons, compared with 688,000 tons in 1979—a decline of 31 percent. Mauritius achieved a record harvest of 719,000 tons in 1973. In the last decade Mauritius has been transformed from a low-cost to a high-cost sugar producer. High taxation has reduced investment in the sugar industry. Despite a high level of unemployment, work on the sugar plantations is unattractive for the relatively well educated labor force.

Mauritius' 1980 balance of payments was in deficit for the fifth consecutive year, estimated at $126 million, up from $82 million in 1979. In recent years, oil imports have become a significant factor in worsening of the visible trade balance. The value of exports declined slightly in 1980 while the cost of imports rose 19 percent. The earnings from sugar exports alone were reduced by $160 million. This loss was spread out over the last half of 1980 and the first half of 1981.

Mauritius was not able to take full advantage of higher world sugar prices in 1980, because of the agreement to export 500,000 tons of sugar annually to the EC at a price guaranteed under the Lome Convention. Mauritius has to import most of its food, which makes up about one-quarter of total imports. Rice imports for 1980 were estimated at 74,000 tons while imports of wheat flour were about 50,000 tons.

The outlook for the 1981 harvest is uncertain. Drought during December and January severely affected the lengthening of the sugarcane, thereby reducing yields. But good weather during the rest of the growing season should produce about 650,000 tons of sugar. (Margaret B. Missiaen)

Mozambique

The Economy

The economy of Mozambique apparently has begun to stabilize after almost a decade of negative growth caused first by the war for independence and later by the departure of 200,000 Portuguese settlers in 1975. Mozambique's problems were further aggravated by the war in Zimbabwe and the termination of the gold-for-labor agreement with South Africa.

The settlement of the Zimbabwe conflict in 1980 did not provide the hoped-for stimulus to the economy of Mozambique. Recovery will be very slow as industrial development is just beginning, and movement of goods to and from Zimbabwe has been hampered by the inadequate transportation network. Port and railroad facilities deteriorated during the period that Mozambique complied with U.N. sanctions on Rhodesia.

Following the settlement in Zimbabwe, a 10-year $1 billion economic reconstruction program was begun, emphasizing agricultural and infrastructural development. Potential exists for developing fishing, tourism, and mineral deposits, including iron, copper, uranium, and bauxite. The electric power produced by the Cabora Bassa dam is mostly exported to South Africa, but the power will facilitate mineral production, especially of bauxite and aluminium.

Agricultural Production

Agricultural output declined again in 1980 following a second consecutive year of drought. Corn production was an estimated 300,000 tons, compared to over 500,000 tons in the early 1970's. Corn and cassava are the main staples in the diet. The drought aggravated problems caused by disruption of the marketing channels following independence in 1975.

The departure of most of the Portuguese and Asian middlemen caused a complete breakdown of the collection and distribution system for agricultural products. Many farmers who had produced some surplus for sale have returned to subsistence production. In other cases, lack of transportation prevents movement of surplus produce to markets in the cities.

Cashews are Mozambique's most important cash crop and foreign exchange earner. Production has fallen from over 200,000 tons prior to independence to approximately 70,000 tons in recent years. The decline is due to two factors: first, the marketing system failed, and second, producer prices were not sufficiently attractive for farmers to harvest the nuts. Recently the producer price was increased from 11 cents to 23 cents per kilo, and more consumer goods were made available to farmers. These incentives led to attempts to clear the brush around the trees but resulted in uncontrolled burning which damaged many of the trees. In 1981, the Government plans to plant 6.9 million new cashew trees and begin a campaign to restore and maintain existing trees. The new trees will be planted in organized units which should permit better control and protection.

Tea and sugar production appear to be recovering from the low levels following independence. Little improvement is expected in the cotton crop, which farmers were forced to cultivate under the Portuguese.

Agricultural Policy

The Government realizes the essential role of agriculture, which continues to employ over 90 percent of the population and generates the bulk of GDP and exports. The Government has undertaken to regroup some farmers into communal villages on a voluntary basis. The collectivization of agriculture has been limited to about 1,000 such villages. The Government has been urging producers in the family farm sector to produce more. However, the marketing and transportation systems are often inadequate to handle the increased production.

With the departure of Portuguese shopkeepers the Government stepped into the vacuum in food retailing by creating government controlled "people's stores." In 1980, the Government decided to turn these stores over to private businessmen and is now instituting a food rationing system in Maputo. It is hoped that rationing will make the distribution of scarce food items more equitable and eliminate the long lines. Grains, including rice, corn meal, and pasta, plus edible fats and oils and sugar, will be rationed. Allocations under this system will depend on available supplies. For March 1981 each individual was entitled to 3 kilos of grain, .5 kilos of fats and oils, and 1.5 kilos of sugar.

Agricultural Trade

Cashew nuts, sugar, molasses, shrimp, cotton, wood, and tea comprise the bulk of Mozambique's exports. Cashews still provide the largest share of the country's foreign exchange earnings—between $60 and $70 million. However, problems in processing have prevented the industry from maximizing earnings. These difficulties include breakage of nuts during the hulling and processing stage and incorrect classification and mixing of different quality nuts destined for export. The latter problem has resulted in protests from importers regarding the quality of the nuts and in some cases rejection of shipments, creating a bad image for Mozambique in the international market.

Export values of sugar and molasses were estimated at $34 million in 1979. Earnings increased significantly in 1980 because of increases in the world price. The U.S. imported more than $60 million worth of sugar from Mozambique in 1980. Tea and citrus exports have also been increasing.

In recent years, Mozambique's food import requirements have increased dramatically because of drought and disruption in the marketing system. Grain imports are estimated to have increased from 350,000 tons in 1979 to approximately 400,000 tons in 1980. Wheat was the largest item, almost 200,000 tons, followed by coarse grains (mostly corn) at 140,000 tons and rice at 60,000 tons. Imports for 1981 are projected at or above the 1980 level.

A 1981 P.L. 480 agreement to supply Mozambique with 15,700 tons of wheat and 3,800 tons of rice has been temporarily suspended.

Outlook

The crop outlook for 1981 (harvest April-May) is unfavorable because of an erratic rainy season. Drought affected the central and southern areas of the country in November and December and the northeast in January. Unofficial reports indicated that Inhambane and Maputo provinces in the south had lost about 30 percent and 20 percent, respectively, of their corn crop. Some replanting was undertaken where seeds were available. Flood damage was reported in Sofala Province in the central region.

Even though the 1980/81 cashew harvest was below 70,000 tons, high world market prices should increase export earnings, especially if more high quality nuts can be shipped. (Margaret B. Missiaen)

South Africa

The Economy

The rise in the gold price provided considerable benefits for the South African economy in 1980. Gold accounted for 78 percent of mineral export earnings. The current account of the balance of payments benefitted in particular, as did gold mining revenues and government tax revenues. Real GDP growth increased to over 7.8 percent—one of the highest rate in the world for 1980,

and roughly double the 3.5 percent achieved in 1979, which had been South Africa's best economic performance since 1974. The country's 1980 growth compared favorably with a growth rate of about 1 percent in most of Europe. As in 1979, growth was fairly evenly distributed among the various sectors. The balance of payments showed a record surplus of about R3 billion. (1 Rand = U.S. $1.285 in 1980). There was also a large capital outflow as South Africa used a portion of its gold revenue to make net repayment on the foreign loans and trade financing. Inflation in 1980 increased to 14.9 percent, as gold revenues swelled the domestic money supply. Demand pull, in addition to the rising trend in production costs, also increased the inflation rate. Rising food prices were the major source of inflation; food prices rose by 29.5 percent while all items excluding food rose by 11.8 percent. The shortage of skilled and to a lesser extent semi-skilled labor caused strong competition among businesses for the limited supply of labor and resulted in an upswing in wages and salaries.

In 1980 South Africa enjoyed not only record gold sales, but also, non-gold mineral sales that were up around 30 percent. However, with the exception of coal, mineral sales increases were largely due to higher prices rather than to volume growth.

Agricultural Production

Despite considerable drought the agricultural sector had a good year. Producer prices paid for most grain and oilseeds are much higher than current world prices but costs are rising rapidly. Farmers have been optimistic that the Government would increase producer prices, at least to compensate for higher production costs. As a result of the price policy, the gross value of agricultural production was 31 percent higher in 1979/80 than the previous season, while there was only a 5.7-percent growth in the volume.

Corn production in 1979/80, at 10.7 million tons, was up 30 percent from 1978/79. Conditions for 1980/81 were very favorable, and estimates put output at 14.2 million tons, a record. The previous record was 11.1 million tons in 1973/74. With this large output the exportable surplus in 1981/82 could be around 7 million tons, almost double the quantity exported in 1980/81. However, a surplus of this size creates some problems, particularly as the railways and harbors lack the capacity for such huge exports. It is therefore likely that the export level will be around 4.7 million tons.

South Africa's corn is currently exported at a substantial loss. In view of the huge crop and anticipated export losses, the net producer prices were not increased. The producers are to help finance the export losses through an average R17.70 per ton deducted from the gross prices.

Because of the irregular rainfall, with related water supply problems and low soil fertility, South Africa is not particularly suited for wheat production. The Wheat Board estimate of the wheat crop in 1980/81 was slightly less than 1.5 million tons, 30 percent lower than the 1979/80 crop. Drought in the main producing areas cut the harvested area by 15 percent. Wheat consumption for 1980/81 is estimated at 1.8 million tons, which leaves a shortfall of 340,000 tons. Imports of 210,000 tons from the U.S. will help supply needs. The last significant import of U.S. wheat was 341,000 tons during 1966/67.

For sugar, at 1.7 million tons raw value, this production year has been disastrous. This was mainly the result of a drought in Natal and Zululand that has been described as the worst in the history of the industry. Exports were cut back from 1.12 million tons in 1979/80 to about 670,000 tons in 1980/81. This cutback was unfortunate because the International Sugar Association quota was lifted and world prices were the highest in 6 years, even higher than the domestic price in South Africa. But the South African Sugar Association had to borrow another R50 million for a total of R100 million.

One major producer concern is the spread of Eldana, a moth whose larva bores into sugarcane, causing severe reduction in productivity. Up to now, despite large expenditures on research, no effective control measures have been developed.

Production of peanuts in 1979/80 increased by 92 percent to 241,000 tons (shelled), mainly because of a 31-percent increase in area planted. However, the trend over the past years indicates a decline in production, attributable to climatic conditions, high production costs, and risk of a disease, black podrot, which has appeared in recent years. In 1980/81, because of a late start of the rainy season, peanut planting was down 13 percent to 242,900 hectares. Weather conditions did improve during the growing season and a crop of about 244,000 tons (shelled) is expected. Due to the high local demand for edible peanuts during MY 1979/80, about 10,380 tons were imported. Prospects for 1980/81 look more promising, and export of edible peanuts could increase to about 64,000 tons.

Sunflowerseed production in 1979/80 was up 5 percent to 329,000 tons, despite a smaller area planted. Favorable weather conditions and the good price were factors in the crop increase. In 1980/81, area increased by 11 percent to about 320,000 hectares and production is estimated at 488,700 tons. Sunflowers are cultivated over a relatively large area, roughly the same as the corn area, and frequently are a catch crop when there are adverse conditions during the corn planting season. The production potential for sunflowerseed is improving as new hybrid varieties are becoming available. About 58,000 tons will be exported during 1981/82. The rest will be crushed locally, with about 16 percent of the oil being exported.

Soybean production of 39,900 tons for 1980/81 is a record. About 500 tons are expected to be exported and the remainder processed. South Africa thus far has not found a variety very suitable for its dry conditions.

In the last 2 years cattle numbers declined by 700,000 or 7 percent because of unfavorable prices. In August 1980 prices rebounded because of light supply and an increase in demand, and since then farmers have started to rebuild their herds. Based on the classic livestock cycle, marketable supplies will probably be reduced for the next year or two. Beef production for 1981 is estimated at 576,000 tons, 5 percent less than last year. South Africa traditionally imports live cattle, sheep, and goats for feeding or slaughter from Namibia. Imports amount-

ed to about 240,000 cattle and 246,000 sheep and goats during 1980.

Increases in red meat prices pushed up demand for poultry meat. Import permits were issued for about 3,000 tons of broilers, most from the United States. In 1980 poultry meat production was about 387,000 tons, up 13 percent from 1979.

After the introduction of yellow margarine in 1971, production of all milk decreased by 25 percent until 1979/80. It is expected that the total milk production will increase during 1980/81. One reason is an expected 26-percent increase in the price of dairy products above 1979/80.

Consumption of eggs increased by more than 7 percent in 1980. This forced the industry to cut back exports as hen numbers were low and producers found it difficult to increase production in the short term. The Egg Board announced that some eggs were to be imported from the U.S. early in 1981.

The 1-percent increase in production of wool to 110.3 million kilograms generated record earnings of R205.6 million, compared with R181.4 million in 1978/79. The drought conditions in the sheep grazing region and the trend in feed prices suggest that there will be an increase in production costs in 1981. Therefore, no significant increase in production is anticipated for 1980/81.

Agricultural Trade

As a result of the rapid economic growth, South Africa had a positive balance of payments of R5.5 billion in 1980. Exports in 1980 totaled R19.9 billion while imports amounted to R14.3 billion. The total value of unprocessed and partially processed food exports was about R2.0 billion. Corn was again the main agricultural source of foreign exchange and its total export value was R440 million.

Including food, record-breaking exports to black Africa in 1980 were reported at R1.1 billion, R392 million above the previous year. Imports from other African countries also climbed from R254 million in 1979 to R280 million in 1980. In 1980 South Africa's exports to the U.S. totaled R2.1 billion, an increase of about 14 percent over 1979. At the same time, imports from the U.S. rose by 57 percent to R2.2 billion. U.S. agricultural trade with South Africa hit record levels in 1980 with exports at $109.8 million and imports at $100.3 million. Both U.S. rice exports and U.S. sugar imports hit new highs.

Outlook

The outlook for the South African economy remains favorable, although the rate of growth is expected to fall in 1981. While general circumstances are favorable for continued economic growth, there are two factors which could interrupt the growth rate: (1) a substantial fall in the gold price, since gold in 1980 accounted for over half of the exports earnings compared with a third 10 years ago; and (2) a rapid acceleration in the inflation rate as employment increases and, more seriously, skilled and semi-skilled labor continues to be short.

The outlook for agriculture seems good but with some areas of concern. Producer prices for most grains and oilseeds are much higher than current world prices, and production costs are rising rapidly. This can seriously affect the competitive position of some products on the world market. Corn as a leading agricultural product is faced with a possible export loss of R120 million for the 1980/81 marketing year. The announcement that net producer prices for corn did not increase for the 1981/82 year clearly indicates that the Government is concerned. This was the first time in 11 years that corn producer prices have not been raised. This will have a significant effect on future agricultural production.

In an attempt to forecast production of major food commodities for 1981/82, we have used trend projections of existing data.* Corn production is expected to be 10.9 million tons given normal weather, but could decrease by 23 percent to 8.4 million in the event of drought or rise to 14.7 million tons with exceptionally good weather. Wheat and sugarcane production levels are expected at 2.2 million tons and 18.6 million tons respectively; in the case of drought, the two are expected to decline by 21 percent and 20 percent. The baseline projections for other major crops are: 274,000 tons, peanuts; 512,000 tons, sunflower seeds; and 44,900 tons, soybeans. In spite of high world prices for peanuts, because of weather uncertainty and disease in the area of production, production is not expected to increase significantly. The production of red meat is expected to be 959,600 tons and poultry 412,100 tons. (Shahla Shapouri)

Zaire

The Economy

The severe economic decline which reduced GDP by a total of 18 percent from 1975 through 1979 continued at a slower rate into 1980. Hopes for a return to a positive growth rate in 1980 were dashed by soft copper prices and slackening demand for cobalt. These two minerals account for about two-thirds of Zaire's export earnings. Although the trade balance showed a $1 billion surplus, at least half of this went for debt service payments. Imports were held to $1 billion. This severely limited supplies of capital goods and materials and held industrial production at 30 to 40 percent of capacity. Even the mining sector was hard pressed to meet its heavy import requirements for spare parts, equipment, and food for its workers. The Government succeeded in staying within the domestic credit and external debt limits set by the International Monetary Fund, which in June 1981 approved a 3-year balance of payments support loan of nearly $1.1 million. The real level of government expenditures was reduced, but a large decline in the tax receipts from the mining sector, combined with a 15-percent pay raise for government employees, is expected to increase the budget deficit to $170 million in 1981, $90 million above 1980.

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*The data of the last 20 years were used. The trend line was fitted using a quadratic functional form and dummy variables were used to represent bad weather.

Agricultural Production

In 1980 agricultural production showed little change. Gains in the production of food crops, especially corn, were offset by declines in palm oil and palm kernels, which sank to new lows. It would take annual plantings of about 5,000 hectares of new palms just to maintain palm oil production at current levels, but only 2,000 hectares are being planted. Fruit from many of the older oil palms is not being harvested because it is hard work that few laborers are willing to do for $34 per month, with almost nothing to buy with this cash.

Cotton production is increasing because the textile mills are financing production and making available the necessary inputs and technical help. The mills buy the cotton, transport it, and even build and maintain access roads in the hope of getting enough cotton to operate.

The estimates of food crop production vary widely. The North Shaba Rural Development Project has increased corn production, but total food crop production has not kept pace with the population increase. The rural areas produce barely enough to feed themselves. The urban population depends to a large extent on imports. Undernourishment is widespread. Zaire's potential for agricultural production is very large because the wide range of climatic conditions makes it possible to produce a great variety of crops. However, agriculture contributes only about 18 percent to GDP; 60 percent of this comes from three to four million small farms producing food crops on a subsistence level. Some of these also produce coffee or cotton as cash crops. The commercial plantations produce coffee, rubber, cocoa, tea, sugar, palm oil, and in a few cases cattle.

Agricultural Policy

Many government policies have discouraged production. One example is the demonetization of the 5-and 10-zaire notes in December 1979. This effectively reduced the money supply because the few days allowed for exchanging the old notes for the new left large numbers of people, especially in the rural areas, holding worthless old notes. It forced many farmers out of the cash economy and discouraged production for the market. Another disincentive has been the overvalued exchange rate for the zaire. Despite a devaluation of the zaire to about U.S. $0.34, its value on the parallel market was only U.S. $0.20. This discouraged production of export crops and led to the smuggling of coffee. Conversely, it has made food imports cheaper. Large wholesalers in Kinshasa were being granted licenses to import food at the official exchange rate while one food producing area with good transportation links could not find a market in Kinshasa for its produce. Increased wheat prices in 1980 helped reverse this trend and increased the demand for domestically produced cassava.

Foreign aid to Zaire amounted to $200 million in 1980, about half from Belgium. Other major donors were the United Nations Development Program, World Bank, United States, and the EC. The U.S. contribution was $9 million in project aid and a $15.7-million P.L. 480 Title I program that included wheat, rice, and cotton. The USAID program included the North Shaba Rural Development Project and the use of P.L. 480-generated funds to provide thousands of hand tools to small farmers at cost.

Tens of thousands of Ugandans who had ties with the Amin regime have fled into Zaire. Most of the Ugandan refugees live along the border and still depend to some extent on food they produced on their land in Uganda. In 1981, there may not be enough food produced locally to support both the refugees and the local population. The World Food Program expects to provide 8,400 tons of food for emergency subsistence rations for 100,000 people for 6 months.

Agricultural Trade

The 1980 total exports were valued at $2 billion, of which minerals—mainly copper, cobalt, and diamonds—accounted for $1.3 billion. Zaire exported about 1 million tons of crude oil. The receipts from this were a little less than $225 million and were spent for importing refined petroleum products. Agricultural exports were about $200 million, of which coffee was $160 million. The rest consisted of palm kernel oil, rubber, cocoa, wheat bran, tea, cinchona bark, papain, and rauwolfia. Not included in the agricultural exports are substantial quantities of timber, on which value estimates are not available.

Imports were $1.2 billion in 1980. Agricultural imports were $150 million, principally 152,000 tons of wheat, 187,000 tons of corn, 25,000 tons of rice, 2,000 tons of cotton, 9,000 tons of sugar, and 22,000 tons of beef and pork.

Outlook

Chances for a strong economic upturn in Zaire are slight. Receipts from copper and cobalt are not expected to increase in 1981, but purchases of 1,000 tons of cobalt by the United States for its strategic stockpile are a possibility. The large increase in expenditures for agriculture in the 1981 budget is encouraging. A change in some of the policies that have held back agricultural production may mark the beginning of the revival of agriculture in Zaire. (Herbert H. Steiner)

Zambia

The Economy

Last year was another rough year for the Zambian economy, despite some advantages gained from the independence of neighboring Zimbabwe and the end of hostilities there. After a good start, prices of copper and cobalt, Zambia's main exports, declined toward the end of 1980, reflecting sluggish demand in the Western industrial countries. International reserves fell to the lowest level in several years. While export earnings set a record, imports increased proportionately. In addition to the ever-increasing burden of oil, corn imports for the second consecutive year were very costly. A large debt accumulation, the lack of new investment, heavy government spending and large budget deficits are further signs of

Zambia's difficult position. An extended arrangement with the IMF worth 800 million SDR over 3 years was reached in May 1981 which will aid in the Government's programs to increase and diversify domestic production and improve Zambia's financial and external position.

Zambia's external transportation links improved somewhat in 1980. However, congestion is a recurrent problem in the rail system, involving Zambia, Zimbabwe, Mozambique, and South Africa. The Tazara railway to Dar es Salaam has had operating problems and volume is down. The renewal of Chinese aid this year and soon-to-arrive equipment should help, but in the meantime trucks using the highway to Dar es Salaam remain important to Zambian trade. The Benguela railway to Angola, formerly Zambia's leading trade route, has not reopened because of guerilla sabotage in Angola. Over the next few years, the black countries of Southern Africa plan to improve coordination as part of a drive to lessen dependence on South Africa. The first priority is better transportation, chiefly involving the key infrastructure of Mozambique. This should benefit Zambia, but few changes can be expected in the short run.

A good corn harvest currently underway and the availability of relatively low cost supplies from Zimbabwe for the first time will bolster the economy in 1981. However, through the first 6 months of the year, food supplies were very tight. Retail prices for the major commodities—corn, sugar, bread, meat, and milk—were increased in early 1981 as consumer subsidies were sharply cut, though not yet eliminated completely.

Agricultural Production

Marketed production of corn in 1979/80 was approximately 375,000 tons, up slightly from the previous year, but only about half the consumption level. The second successive year of drought accounts for most of this shortfall. Other factors, such as late distribution of inputs, high production costs, and the poor availability of credit also may have contributed to the low output. Commercial imports and concessional aid were not sufficient to keep stocks at desired levels of 200,000 tons. However, only one section of Zambia, in the southwest, had severe shortages.

The 1980/81 crop year was marked by excellent rainfall, and plantings increased in response to some policy changes. The preliminary estimate of this year's marketed production is around 700,000 tons and possibly as high as 780,000 tons, a record. Continued imports will be necessary until the new crop is harvested by the latter half of 1981. Imports will also help rebuild stocks.

Demand for corn, which is the staple in the diet, has been rising at about 5 percent a year in Zambia, one of the most urbanized countries in Africa. The availability of corn for feed use has also become a problem during this period, aggravating already serious feed shortages for poultry, pig, and dairy producers.

Although wheat is an important consumer item as bread, local production only started during the 1970's and has yet to exceed 10,000 tons, while consumption is in the range of 125,000 tons, met mainly by imports. Australia is Zambia's chief commercial supplier. In recent years, the U.S., Canada, the EC, and Finland have provided some wheat on concessional terms. Expansion of Zambia's production depends on a successful adaptation of the crop to local rainfed conditions and on extension of irrigation. In the beginning of 1981 shortages of bread were reported.

Sugarcane production at the large Nakambala estate increased slightly in 1980 to about 920,000 tons. This continues a steady trend enabling Zambia to near self-sufficiency in sugar, although demand may be increasing at a faster pace. INDECO, the parastatal company in charge, is planning a fuel alcohol plant to produce ethanol from molasses.

Local rice production is estimated at 3,000 tons for 1980/81. If supplies were available demand could reach 15,000 tons. Tobacco marketed in 1980 only reached 4,100 tons. Accurate estimates of peanut production are difficult because smallholders in Eastern province, the prime growing area, have probably been growing more for subsistence needs while cutting back on production for export. One bright spot has been cotton, a smallholder crop, with 1980 output of seed cotton at over 22,000 tons, up about 15 percent over 1979. High producer prices, good supporting services, and cotton's tolerance of the dry conditions of 1978/79 and 1979/80 account for the increasing production. However, there has been considerable waste due to the low capacity of Zambia's textile industry and lack of storage. Some cotton lint has been exported at a loss.

Agricultural Policy

Zambia raised the producer price of corn again this year (1980/81 season) to K 13.50 per bag (approximately $187 per ton), keeping its price one of the highest in Africa. To promote early deliveries, a bonus of nearly 5 percent will be paid up to July 15, and 3 percent up to August 31, 1981.

A change in marketing is underway this year. NAMBOARD, the parastatal marketing board, is being partially phased out, as cooperative marketing unions take over in some provinces. NAMBOARD will retain a central, coordinating role. This change is intended to streamline the often inefficient operations, but it is not clear if the transition will be smooth.

The Government provided a welcome boost to the important commercial farmers in 1980 with the announcement of new tax incentives, including an accelerated depreciation rate for farm equipment and machinery and a ceiling on the tax rate paid on farm income. Another incentive for large scale producers is a foreign exchange bonus for production over certain levels of corn, wheat, or soybeans.

In addition to the above changes and continuation of the "Lima" program, a package program aimed at smallholder corn growers, "Operation Food Production" was launched in 1980. This is a very ambitious plan to establish two state farms of 20,000 hectares each in each of Zambia's nine provinces. The cost is estimated at about $500 million over 10 years, to be financed largely through foreign assistance—from both private investors and other governments. Although Zambia has land avail-

able, outside managerial help will be necessary. Production on some of these state farms could begin during the 1981/82 season.

Agricultural Trade

Zambia's exports are virtually all minerals—in 1979, copper accounted for 82 percent of total export earnings, cobalt 13 percent, and lead and zinc 3 percent. In spite of good potential, agricultural exports are minuscule. Although the value of exports increased by 9 percent in 1980 to nearly $1.5 billion, the cost of oil imports rose by 68 percent. The value of corn imports rose by 400 percent to over $60 million and totaled about 395,000 tons in 1980. The U.S. and South Africa were the main suppliers.

Continued high imports were necessary for the first half of 1981. Recently P.L. 480 food aid has become very important to Zambia. Under the program, the U.S. shipped 90,118 tons of corn in 1980, and is expected to provide over 50,000 tons of wheat during 1981. Zimbabwe is shipping 19,000 tons of corn to Zambia under a tripartite P.L. 480 agreement whereby the U.S. in turn supplies Zimbabwe with wheat. Zambia planned commercial purchases of Zimbabwe corn during the first half of 1981 of 60,000 tons, and 54,000 tons of wheat from Australia.

Outlook

Zambia's over-reliance on copper and cobalt exports could prove damaging once again, as the 1981 price outlook is not favorable for either commodity. Strikes in the copper mines in early 1981 are likely to further reduce production, which declined some 3 percent in 1980. Fortunately the food situation appears to be improving after this season's good weather and added incentives to the farmers. Another year of favorable rains, coupled with the availability of Zimbabwe's corn if required, would result in large foreign exchange savings. However, consumers will be paying higher food prices because subsidies were cut in early 1981. (Peter A. Riley)

Zimbabwe

The Economy

1980 was a good year for newly independent Zimbabwe. The economy achieved real GDP growth of over 7 percent with manufacturing leading the way. The index of manufacturing production increased 14.9 percent and volume exceeded the previous record of 1974. Mineral production reached a record Z $416 million (U.S. $645 million). However, the total volume of production decreased, and rising unit values, particularly for gold, accounted for the 32-percent increase in value over 1979. Agriculture had a surprisingly good year, beginning to recover from drought and the disruption caused by guerilla warfare in the rural areas before independence. Sales of crops and livestock increased 31 percent to Z $488 million (U.S. $756 million).

Trade increased considerably in 1980, benefiting from the lifting of international trade sanctions imposed in 1965, and the subsequent improvement in the terms of trade. Zimbabwe's exports are fairly well balanced, consisting of manufactured goods and minerals as well as agricultural products, reflecting the diversified nature of the economy. Despite higher exports, the balance of trade surplus declined in 1980 because of a sharp increase in imports. Large imports of capital equipment and raw materials were necessary for the manufacturing sector, which has to rejuvenate its aging plant while coping with a big increase in demand. Tight controls remain on import allocations because foreign exchange is short.

The cost of oil imports held steady in 1980, partly because Zimbabwe opened a highly successful fuel ethanol plant that processes sugarcane. Ethanol, used in a blend with petroleum, now provides 15 percent of the country's motor fuel requirements. Recently plans were announced to electrify the railways over a 5-year period, further conserving oil. Transportation bottlenecks, however, continue to be a key factor limiting trade and economic development.

Consumer spending rose rapidly last year. Much of this is explained by the establishment of minimum wages, leading to higher incomes for lower-paid workers. Yet inflation actually moderated in 1980—the CPI for higher-income urban families went up 8.9 percent and that for lower-income urban families increased only 4.4 percent. However, for 1981 inflation is forecast to reach at least 15 percent because of a large budget deficit and public sector borrowing.

Future prospects for the economy are bright. The transition to independence has been relatively smooth, although the country has lost skilled manpower. The return of peace helped to create an initial spurt in economic activity that will probably give way to slower, though steady, growth. The Zimbabwe Conference on Reconstruction and Development (Zimcord) held in March 1981 was a great success, resulting in pledges of $1.8 billion from 31 nations and 26 international agencies. Most of these funds will be used for rural development and training. A 3-year transitional development plan will be released in 1981 and is expected to continue the pragmatic approach taken so far. The Government is committed to policies "based on socialist, egalitarian, and democratic principles" that will eventually transform the present, highly dualistic economy to a more balanced one with equitable income distribution.

Agricultural Production

Agriculture accounts for approximately 12.5 percent of GDP, over one-third of total exports, and is the largest employer in the country. Zimbabwe's modern commercial farming sector, dominated by whites, has remained strong through years of sanctions and warfare and so far has prospered with independence. Small-scale black farmers in the more subsistence-oriented Tribal Trust Lands suffered much more from the fighting and have faced major structural problems.

Corn is the main staple and most important feed grain in Zimbabwe. Production in the 1979/80 crop year totaled 1.598 million tons, an increase of 33 percent over the previous year. Average yields were still low—20 percent

lower than 1977/78, when better moisture conditions prevailed. Much higher yields are attained in the commercial sector, which produces about two-thirds of the crop on about one-sixth of the area. Because of lower stocks and initially lower estimates of production, in 1979/80 corn imports (95,000 tons) were made for the first time in 6 years and exports were restricted to 70,000 tons.

Determined to ensure a large rebound in corn output this year, the Government raised the producer price to Z $120 (U.S. $192) per ton for 1980/81, up about 50 percent. Acreage increased substantially and, coupled with very favorable weather, has resulted in a record crop. Preliminary estimates have been as high as 2.9 million tons, leaving a huge surplus over domestic needs. This is too large an amount to be handled successfully, however. Transportation problems may restrict exports to around 600,000 tons, below the previous record level of nearly 900,000 tons. Domestic consumption is approximately 1.5-1.6 million tons. Storage may present problems.

Tobacco is the most important export crop for Zimbabwe, but production and exports have dropped since 1965, when Zimbabwe was the world's second leading exporter. Isolation from world markets led to much diversification into other crops. With the end of sanctions, growers expanded production in 1980 to a near-record 125,000 tons farm weight, 98 percent of which is flue-cured. Although yields set a record at 1.9 tons per hectare, the quality was poor and prices low.

The tobacco industry's strategy now is to aim for lower volume but higher quality. The production quota for the 1980/81 crop was set at 70,000 tons of flue-cured, and plantings for the season were reported to be down by 40 percent to about 38,000 hectares. Early estimates showed production to be close to 70,000 tons. The quality was very good and prices have been strong.

In Zimbabwe, wheat is a winter crop (May to September) grown under irrigation mostly by large-scale commercial farmers. Production has steadily increased since 1966, reaching self-sufficiency and modest export levels by the late 1970's. However, in the last 2 years there have been problems, mainly caused by low prices and some water difficulties related to the drought. In 1979, wheat output dropped about 24 percent to 161,000 tons, and in 1980 it rose only marginally. Meanwhile, demand is increasing rapidly, to about 192,000 tons in 1980/81. It could reach 230,000 tons in 1981/82. For 1981, the pre-planting price has been raised about 27 percent over last year's to Z $165 per ton, and a bonus of Z $25 a ton will be paid to new producers or to those who increase their deliveries.

Zimbabwe is self-sufficient in oilseeds and exports some. Cottonseed, soybeans, peanuts, and sunflowerseed are the most important. Total purchases by the Grain Marketing Board (GMB) for the 1981 season are projected to decrease about 6 percent from 1980, partially reflecting a switch to more corn by many commercial farmers. For example, soybean area was down 25 percent in 1980/81 and output will probably reach only 70,000 tons, down from 97,000 tons in the previous year. However, the predominantly smallholder crops, peanuts and sunflower seeds, have increased, and peanut production in particular should show striking gains in the next few years.

Cotton is Zimbabwe's second leading agricultural export, produced both by smallholders and by large commercial farmers. A large portion comes from irrigated areas. In recent years, output has fluctuated somewhat with weather and prices, but it can be expected to increase in the future, as small farmers enjoy improved opportunities. In 1980, seed cotton deliveries to the Cotton Marketing Board were 184,800 tons, and approximately 63,300 tons of cotton lint were produced. Local cotton sales were 16,000 tons, and nearly 56,000 tons were exported. The extremely high corn price may have discouraged some planting of cotton for 1981, and total production should be close to the 1980 level.

Sugar is a valuable export, in addition to being a raw material for ethanol. Record exports of 245,000 tons were made in 1979. This level is unlikely to be reached again soon because of strong growth in domestic consumption, although the industry is expanding. Most sugarcane is grown on two large irrigated estates. In 1980, production reached 335,000 tons with exports of 185,000 tons.

The beef and dairy sectors are rather depressed. The war seriously hurt the beef industry because of the breakdown of disease control and much stock theft. Dipping tanks were a particular target of guerrillas. The national cattle herd declined by about 25 percent between 1978 and 1980. Some of the breeding herd were slaughtered, which now constrains rebuilding. The dairy herd has also declined somewhat in the last few years and in 1980 fluid milk production dropped slightly. Demand for both beef and dairy products is growing fast and some imports will probably be needed temporarily.

Agricultural Policy

The overwhelming issue to be settled in Zimbabwe is land policy. The Government is expected to distribute land to as many of the peasant farmers and refugees as possible without jeopardizing production in the commercial sector. Inequitable land holdings have been a major grievance, along with poor access to services and limited infrastructure in the peasant areas. About 2 million hectares of abandoned or unused land have been identified as available for immediate redistribution. However, the Government acquired only about 360,000 hectares during the first year of independence, because of the lack of money to purchase the land (it will not be confiscated). Zimcord funds could greatly assist this effort, but much more land will be needed over the long term. More irrigation schemes and other means of intensifying production are being considered, along with a host of other rural development efforts to improve production potential, marketing services, and living conditions for the small farmers.

Price policy has been effectively used to stimulate production, but not without a cost. Consumer prices for corn have been held artifically low, and the resulting subsidy to meet the difference between producer and retail prices and cover marketing expenses is large.

The minimum wage for agricultural workers was raised in 1980 to Z $30 a month and applies to women

and children as well as adult men. This may account for a slight shift from labor-intensive crops such as tobacco and cotton on larger enterprises.

To help peasant farm production recover, some 300,000 crop packs containing production inputs were distributed to resettled refugees and others. Up to the beginning of the 1981 harvest, relief food supplies, also temporary, were made available at a large number of sites. Other measures to assist those in the Tribal Trust Lands included short training programs, provision of mechanical tillage services, and loans for acquiring implements.

Agricultural Trade

The most important concern of Zimbabwe's neighbors in Southern Africa will be Zimbabwe's ability to become a reliable food supplier for the region. White corn from Zimbabwe could prove to be cheaper than alternative sources. However, improved management and infrastructural development will be necessary to relieve present transportation constraints in the region. The Southern Africa Development Coordination Conference has made a start towards improving transportation links in the region while reducing dependence on South Africa, but no dramatic gains can be expected in the short run.

Of the projected corn exports of approximately 600,000 tons, most will go to neighboring countries. Favorable weather has reduced the immediate need for heavy imports in most of Southern Africa, but stocks will have to be rebuilt.

During sanctions, the destination of Zimbabwe's exports was classified, and the information has not been released. However, impressive amounts of corn were exported regularly from 1967 to 1979. In part, corn production benefited from a switch from tobacco, but a number of other crops have also reached the export level, giving Zimbabwe a healthy mix. In 1979, tobacco was still the most lucrative export, earning Z $80.2 million (U.S. $128 million), followed by cotton lint, beef, corn, sugar, coffee, and tea. Aside from unusual imports of wheat and corn in the last year, Zimbabwe is virtually self-sufficient in agricultural products.

During 1980, Zimbabwe became a member of the Lome Convention, gaining access to the EC for some of its products. Zimbabwe also joined the International Sugar Agreement, gaining a 1980 quota of 230,000 tons. It hosted a meeting of the world's leading tea exporters in 1980, a further sign of Zimbabwe's strong emphasis on trade development.

Outlook

The unwieldy corn surplus and high cost of subsidies will probably lead to a cutback in corn production in the 1981/82 crop year. This in turn could open the way for more oilseed production. Wheat output in 1981/82 should increase in response to the substantial price increase, possibly reaching 200,000 tons. 1981 will be another poor year for beef as rebuilding of the herd continues, but the producer price was raised 30 percent in 1981 which should stimulate this effort. Tobacco stocks have been sold off much faster than expected and the 1981/82 production quota has been increased 29 percent to 90,000 tons.

Zimbabwe's agriculture will experience growing pains as it recovers and expands. Transportation will remain a constraint and it is difficult to say how fast the situation will improve. Input supply, in part related to transportation, may present problems as well. Fertilizer use increased greatly in Zimbabwe during 1980/81 because of increased plantings. In March 1981 a temporary embargo was imposed on sales of some nitrogenous fertilizers, pending clarification of the tight supply situation. Meanwhile, because of rising costs, the average price of fertilizer for 1981 was raised by 14 percent. In 1980/81, coal deliveries were late because of strikes in the mines and conflicts with transport needs of other commodities. Coal is used by some commercial farmers for curing tobacco and drying grain. Another consideration on the input side is the need to replace aging farm equipment and obtain equipment for new developments such as irrigation schemes. However, commercial credit will be more expensive because interest rates were raised in 1981.

Overall the outlook is favorable. Agriculture will probably be the leading growth sector of the Zimbabwe economy in 1981. (Peter A. Riley)

THE MIDDLE EAST

Bahrain

The economy of Bahrain is strongly linked to those of neighboring countries, particularly Saudi Arabia. Construction of a causeway or land bridge between Bahrain and Saudi Arabia is scheduled to begin next year. This connection would bolster the banking trade and service activities in Bahrain for customers in Saudi Arabia.

Banks in Bahrain received over $20 billion in deposits in 1980, mostly from Saudi Arabia, Iran, and Iraq. Traders in Bahrain no longer engage in transit trade activities for importers or merchants in Saudi Arabia because recent subsidy schemes designed by planners in Riyadh favor direct imports. However, Bahrain became a significant transit trade center in 1980 for some food items, cigarettes, and electrical appliances destined for consumers in Iran. Also, the war between Iran and Iraq contributed to an influx of relatively wealthy refugees from both countries to Bahrain. Bahrain has become a leading Mideast financial and service center. However, most of the loans from financial firms in Bahrain are made only to the most reliable firms and municipalities in Europe and North America, and in relatively large sums.

Construction of new roads and buildings has reduced the cropland available in Bahrain, a country of only 225 square miles. Greater use of fertilizer allowed vegetable

production to advance slightly to about 50,000 tons. Concern about air pollution slowed plans for further expansion in broiler and egg operations.

Bahrain agricultural imports surpassed $200 million in 1980, although about 15 percent of this trade was re-exported to nearby countries. Rice imports increased to about 35,000 tons and imports of wheat from Australia also advanced moderately. Imports of frozen poultry and processed foods increased about 20 percent. U.S. agricultural exports to Bahrain increased 42 percent in 1980 with large sales of poultry meat, rice, fruit juices, and soybean meal. Further gains are likely in 1981. (John B. Parker)

Iran

The Economy

The drastic decline in Iran's petroleum exports between 1978 and 1980 triggered a number of economic problems. Iran's foreign earnings from oil exports declined from a high of $24 billion in 1978 to about $12 billion in 1980. Iran's GNP is estimated to have declined 13 percent in 1979 and even more in 1980, according to preliminary IMF estimates. One-third of the labor force remains unemployed. Many industries are at a near standstill. The resumption of petroleum exports from Kharg Island, despite continued hostilities between Iran and Iraq, has pushed the daily volume back up to 1.5 million barrels. Still, this is only one-quarter of the average output in early 1978.

Agriculture has remained one of the more stable sectors of the economy, although severe shocks hit the poultry industry and more recently the winter vegetable and sugar beet farms in the Khuzistan. Shortages of meat and eggs in Tehran worsened during the winter and prices soared to unprecendented levels.

Iran continues to rely on food imports for at least 30 percent of its requirements. Iran's cities became heavily dependent on imported commodities during the boom years of 1974-78. An estimated 60 percent of the food consumed in Tehran is now imported. In recent months shortages of many items have been exacerbated because the war closed down Khorramshahr, a major port and warehouse center for food distribution.

Cargo has been diverted to Bandar Abbas in the south, but it lacks the highway and rail facilities that the northern ports have. Bandar Abbas has become heavily congested, although food shipments received priority. More recently, Bandar Khomeini in the north has resumed unloading operations. Iran has also made substantial use of Turkish ports to unload its imports. Despite efforts at food self-sufficiency, food imports continue to grow. In 1980, food imports are estimated to have reached a record $2.7 billion, and 1981 food imports are forecast at over $3.0 billion, because of plans to import larger amounts of wheat, feedgrains, sugar, and livestock products.

Agricultural Production

Agricultural production declined an estimated 9 percent in 1980, mostly because of the 15-percent decline in output of livestock products. The departure of many wealthy families who had invested heavily in poultry operations and dairies contributed to the setback in meat and milk output. Crop production remained relatively stable with an overall decline of only 1.5 percent. Higher procurement prices for wheat had less of an impact than expected because more farmers sold their surplus supplies to nearby customers rather than to government agencies.

Grain production declined slightly from 6.8 million tons in 1979 to about 6.6 million tons in 1980, and the area planted remained virtually unchanged. Shortages of pesticides to control the rice stem borer apparently caused some reduction in the average rice yield. Milled rice output fell from 812,000 tons in 1979 to about 780,000 in 1980, although the area planted in rice increased slightly. Wheat production declined about 5 percent to approximately 4.75 million tons. Shortages of fertilizer and a shift of some of the most fertile land to vegetables contributed to a decline in the average wheat yield. Shortages of diesel fuel and electric power interrupted irrigation activities at various times. Barley production is less dependent upon inputs, and output remained steady at about 1 million tons in 1980. Corn production reached 60,000 tons in 1978, but declined slightly in 1980.

Fruit production remained stable with the output of almost 1 million tons of grapes and over 300,000 tons of citrus as new orchards of apples, peaches, and pears planted during the mid-1970's came into production. Many of the new pistachio orchards planted in the 1970's have not yet come into production. In recent years most pistachio output came from wild trees and yields fluctuated. Because of frost damage, output of pistachio nuts declined from a peak of 60,000 tons in 1978 to only 10,000 tons in 1979, but then production rebounded to 30,000 tons in 1980. Harvesting of dates for export to Europe and China was interrupted in the autumn of 1980 because Iraq invaded the area of commercial date orchards.

Commercial production of most vegetable crops reached a peak in 1978. Iran's output of watermelons increased steadily between 1971 and 1978 to a peak of almost 1 million tons, but declined slightly in the last 2 years. Cantaloupe production reached a peak of about 480,000 tons in the late 1970's and remained near that in 1980. Onion production reached a peak of 392,000 tons in 1977; production in 1980 was estimated at one-third below that. Output of tomatoes reached a peak of 306,000 tons in 1979, nearly double the 1975 level, but part of the commercial tomato crop near Susangird and Ahwaz in Khuzistan was destroyed or taken by Iraq armed forces in 1980. The loss of tomatoes, green beans, eggplant, melons, and salad vegetables grown during the autumn and winter in Khuzistan created severe shortages of fresh produce in Tehran.

Potato production in 1980 was about 8 percent below the 1978 peak of 400,000 tons. Production of dry beans and lentils declined in 1980 as more was consumed as green vegetables. Iran produced 100,000 tons of dry beans and 28,000 tons of lentils in 1979, but a smaller volume in 1980. Pent-up demand for pulses exists, and large imports of lentils from Turkey and dry beans from

Thailand are expected.

Sugar production reached a peak of 687,000 tons in 1976 but the volume drifted down to about 600,000 tons in 1980. Output of sugar beets declined as the area planted was reduced.

Cottonseed remained the leading Iranian oilseed, although output in 1980 was about one-third below the peak of 335,000 tons in 1977. Soybean output peaked at 130,000 tons in 1979 but declined moderately in 1980.

Commercial production of lint cotton was estimated at 80,000 tons in 1980. The sharp decline in the last several years caused a similar decline in exports.

The most drastic setback in Iranian agriculture in the last several years has been in the livestock sector. Total output of livestock products in 1980 was about one-fifth below the peak attained in 1977. Local meat output fell from 738,000 tons in 1978 to about 600,000 tons in 1980. Poultry output, heavily dependent upon imported feed, fell more severely than mutton.

Agricultural Policy

As the large petroleum revenues spurred income growth and improved the average Iranian diet, Iran developed a greater dependence upon imported food. The country shifted from a net agricultural exporter in the 1960's to a modest net importer in the early 1970's. By 1978, imports grew to about one-third of the total food supply. Efforts in 1979 to curtail food imports and ban certain items in order to encourage greater production and promote self-sufficiency did not materialize. Shortages developed and it soon became apparent that urban demand for food could not be easily supplied from rural areas, where population growth and improved diets left less each year for delivery to cities. Maintaining an adequate diet again became a priority in 1980, as new programs were launched to increase imports. Food self-sufficiency is no longer an immediate policy goal, because it cannot be achieved without massive investments requiring huge funds, which Iran no longer has. Consumer prices for bread have been kept relatively low through government subsides, but prices for meat, eggs, and milk have soared. Many of the poultry enterprises which folded in 1979 have been revived under new management.

In 1980 Iran shifted to Australia, France, Eastern Europe, and Brazil as major suppliers of agricultural commodities. Because of the hostage situation and refusal of the longshoremen to load cargo to Iran, few direct purchases were made in the United States, which had been Iran's leading supplier of food imports during 1973-79.

Agricultural Trade

Iran's total exports declined from nearly $20 billion in 1979 to $13.5 billion in 1980. Higher prices for petroleum partly offset the substantial decline in the volume exported. Exports of agricultural products and natural gas (mostly to the Soviet Union) have declined even more drastically than petroleum exports. U.S. imports of Iranian pistachio nuts fell from $42 million in 1979 to only $2 million in 1980.

Total imports declined from a peak of $16 billion in 1978 to about $13 billion in 1979 and then rose to an estimated $14 billion in 1980. Iran's agricultural imports reached a new peak of about $2.7 billion in 1980—up from $2.1 billion in 1979 and the previous record of $2.2 billion in 1978.

Grain imports soared from 2.5 million tons in 1979 to an estimated 3.7 million tons in 1980. Efforts to replenish diminishing wheat stocks and rebuild the animal feed industry contributed to the surprising increase. Imports of wheat and flour increased to about 1.8 million tons in 1980—about 50 percent above the 1979 level. Australian wheat deliveries rose to about 1 million tons—nearly five times the 1979 level. Soon after the hostages were released, Iran re-entered the U.S. market for wheat grown in the Pacific Northwest, and purchased about 700,000 tons during the first 6 months of 1981. Larger imports of wheat from France, Argentina, and Bulgaria are also expected this year. Iran's total wheat imports in 1981 may surpass 2 million tons.

In the last several years rice imports remained near 500,000 tons annually. The U.S. sent no rice directly to Iran in 1980, in contrast to shipments of 477,151 tons in 1977 and 285,000 tons in 1979. However, a large part of the 152,000 tons sent to the United Arab Emirates apparently was destined for Iranian consumers. In 1980, Iran imported over 120,000 tons of Pakistani rice and nearly that volume from Thailand.

U.S. shipments of corn in the first 6 months of 1981 rose to 80,000 tons. There were no direct shipments in 1980. Our corn exports to Iran peaked at 468,000 tons in 1979, when total Iranian imports of corn exceeded 600,000 tons. Large Iranian corn purchases in Rotterdam during 1980 helped ease the shortage of animal feed in August and September and reportedly pushed the volume of corn imports for the year above 800,000 tons. Thailand sent over 100,000 tons and Argentine deliveries were in the vicinity of 100,000 tons. The rest came indirectly from the U.S. Barley imports in 1980 were reportedly more than 500,000 tons, double the 1979 level. The United States and Canada each sent nearly 48,000 tons and Australia sent 83,635 tons. No U.S. barley was shipped after the vessel with 32,000 tons departed on November 6, 1979—2 days after the American Embassy was seized.

Imports of grain sorghum reached a peak of 283,000 tons in 1978, but imports in 1979 plummeted to only 50,000 tons. A slight rebound occurred in 1980 because of larger arrivals from Australia and Argentina.

Following the $900 million spent on cereals imports in 1980, the next most expensive agricultural import was sugar—costing over $500 million. Iran imported about 800,000 tons of sugar in 1980—double the 1976 volume and slightly less than the peak volume of 876,000 tons recorded in 1978. France was again the leading supplier, followed by Brazil and Eastern European countries.

Imports of livestock and products rebounded strongly in 1980, following official attempts to curtail imports of some items in 1979. Arrivals of live sheep exceeded 3 million head for the fourth year in a row. Imports of mutton increased moderately from the 1979 level of 65,000 tons, and beef imports increased nearly 20 percent

to over 50,000 tons. Imports of poultry meat increased to a record of about 70,000 tons. Plans to curtail these imports were apparently rescinded, and Brazil, the EC, India, and Bulgaria made sales to Iran. Australia and New Zealand were major suppliers of the beef and mutton. Imports of eggs from Eastern Europe also rebounded in 1980.

Cheese imports from the EC remained at over 35,000 tons annually during 1978-80. The ban on imports of some processed foods contributed to shortages in late 1980 and early 1981.

Imports of vegetable oils declined from 376,000 tons in 1978 to about 310,000 tons in 1979, but shortages worsened and imports in 1980 were again near the 1978 peak. Brazil sent about 225,000 tons of soybean oils in 1980—about double 1979 shipments. Direct shipments of U.S. soybean oil had reached 125,000 tons by 1979, but no sales occurred in 1980.

Outlook

A considerable rebound in U.S. agricultural exports to Iran is underway for 1981, but they may not reach the 1979 level of $415 million. U.S. exports of farm products to Iran dwindled in 1980 and were valued at $8.2 million. Shipments of 600,000 tons of wheat valued at over $100 million and 80,000 tons of corn at $12 million have already been made. Sales of U.S. rice to Iran are related to the availability of certain preferred top-quality grades, rather than to trade or financial policy. In recent months, Iran has sharply expanded purchases of food in the EC, Brazil, Bulgaria, and Turkey. Total agricultural imports may approach $3.5 billion in 1981, with possibly 8 percent from the United States.

Favorable weather should see a wheat production rebound of about 10 to 15 percent. Further gains in output of horticultural crops should occur as new orchards planted during the mid-1970's come into bearing. Greater distribution of fertilizer and subsidized imported seed has encouraged farmers to plant more vegetables. Also, fear that further problems may evolve in transportation and distribution has caused villages to become more self-sufficient in food. This has left the cities with worsening shortages which only larger food imports can solve. (John B. Parker)

Iraq

The Economy

During the last 3 years Iraq's programs and policies to disperse petroleum wealth to most of its citizens contributed to remarkable gains in the standard of living. Government policies to improve the welfare of consumers by subsidizing food have expanded markedly since 1973. Bread costs about 13 cents per pound in Iraq. Improving the average diet is a high priority that requires rising domestic output along with larger food imports. The average diet is likely to have contained about 2,750 calories daily in 1980—about 20 percent above the 1973 level. Processed foods are beginning to become a part of the everyday diet of urban Iraqis. As petroleum revenues rose in recent years, Iraq was willing to spend more for food imports and subsidies for consumers.

Despite the loss of petroleum revenue because of war damage in the latter part of the year, Iraq's total exports in 1980 reached a record $26 billion. This was 21 percent above 1979 and double 1978. Record imports of food and consumer goods in the first 8 months of 1980 allowed Iraq to build up stocks of many items before the war began on September 22, 1980. Stocks of many items are now running low. Ports in Turkey, Syria, Jordan, and Kuwait are congested with goods destined for Iraq. In 1980 petroleum revenues accounted for over 80 percent of Iraq's GNP, which was estimated at $33 billion. Agriculture accounted for only about 4 percent, although it provided employment for over one-third of the population.

Tremendous investments in roads, electricity, housing, and manufacturing have created many jobs for Iraq's rural population. About 500,000 workers from other countries were in Iraq in September 1980 when the war broke out. Most of them left in late 1980, and work on many projects was halted. Workers from Eastern Europe did much of the technical work. Jobs in construction were performed primarily by workers from South Asia and Yemen.

Iraqi consumers are becoming more interested in the quality of foreign goods entering the market.

Agricultural Production

Total agricultural production increased about 9 percent in 1980 because of a combination of increased use of subsidized inputs and relatively favorable weather. Wheat production increased about 48 percent to 1.3 million tons, and barley output rose about 58 percent to nearly 1 million tons. The poor performance in the livestock sector, hurt by feed shortages, limited the rate of overall growth in farm output. Government efforts to establish new poultry and dairy enterprises were moderately successful in the mid-1970's but were based heavily upon imported feed and Government financing. When imports of Thai corn could no longer be unloaded at Basra, some poultry farmers had to drastically curtail their operations. Iraq's meat production increased about 4 percent in 1980 to 270,000 tons.

Improved marketing facilities have made it easier for farmers to sell fresh vegetables. Output of tomatoes increased slightly in 1980 to about 460,000 tons, and watermelon production reached a peak of 670,000 tons.

In the last several years Government programs, including subsidies for new orchards and vineyards, resulted in considerable gain in output of apples, peaches, and grapes. Orchards in northern Iraq now produce over 100,000 tons of apples annually. The leading fruit crop remains dates, grown near the Euphrates and Tigris in most of southern Iraq. When date trees blossom weather can greatly influence yields, and fluctuations in production can be wide—ranging from the peak of 578,000 tons reported in 1977 to only 392,000 tons in 1979. The 1980 harvest was up about 25 percent.

Crops with a heavy labor requirement appear to be less

attractive to farmers. This situation has contributed to the recent decline in production of tobacco, lentils, and flax. Cotton production has remained steady at about 40,000 tons in recent years, partly because of greater use of mechanical pickers provided by Government cooperatives. Experiments at Government farms in the cultivation of soybeans, sunflower seed, and peanuts indicate that these crops could grow well. Increased output of these crops on state farms, where modern machinery would be used, is expected.

Agricultural Policy

The structure of Iraq's agriculture has been in flux since the 1960's and early 1970's. Land expropriation caused many of the prosperous commercial farmers to leave the country. Some of this land has not yet been distributed, and the uncertainty over its future ownership deters further investment which could provide good yields. Cooperative production and marketing are beginning to become effective because of the greater availability of subsidies, especially for livestock enterprises. State farms have been successful in producing corn under irrigation, but their operations for wheat and barley have been below output expectations. Imports of farm machinery are rising as labor grows scarce in rural areas because of higher wages in cities and the strong military emphasis.

The Iraqi Grain Board manages domestic procurement and foreign trade in cereals for human consumption. The Animal Feeds company arranges purchases of cereals for animal feed. Programs by the Iraqi Grain Board to store imported grain near cities and in many villages bolstered Iraq's import needs in 1980. The continuation of this program should contribute to large imports this year.

In order to encourage output, the price paid to farmers for wheat increased in 1980 to about $242 per metric ton. In addition to new subsidies for fertilizer from the Basra factory, a subsidy for pesticides was established. Iraqi farmers can collect $24 per ton for on-farm grain storage, and loans for construction of modern metal barns are easy to obtain. Gradually, more subsidies and higher procurement prices should make farming more appealing. New canneries are planned in the future to provide an extra market outlet for vegetable farmers.

The contrast between technology used on state farms and on small private farms is stark, but the gap may narrow in the near future. Tractors are usually adequate on state farms,and more private farmers are renting tractors from cooperative pools. A major problem on state farms is the lack of incentives for salaried employees to do certain tasks. For example, heavy applications of fertilizer to wheat fields early in the growing season produced a prolific and healthy crop of weeds, but very little wheat, because no employees were willing to do the manual labor of pulling out weeds and no plan had been made to use herbicides.

Agricultural Trade

Agricultural commodities accounted for less than 2 percent of Iraq's 1980 exports of $26.4 billion, in contrast to 5.5 percent of the 1978 exports of $11.1 billion. Dates usually accounted for most of Iraq's agricultural exports. They were once Iraq's leading export, but petroleum and petroleum products now account for over 80 percent of the total.

Iraq's agricultural imports soared to a record $2 billion in 1980-double the 1978 level. Imports of nonmilitary items increased about 30 percent to over $9 billion.

Grain imports include record purchases of wheat, barley, and rice, partly for storage programs. Wheat imports were estimated at more than 2 million tons. Australia supplied about half, the United States nearly one-fourth, and Canada about one-fifth. Some wheat also came from the EC and Turkey. Iraqi imports of barley from France, Belgium, Canada, the United States, and Australia increased sharply in 1980 to more than 300,000 tons. In 1979 the United States supplied nearly two-thirds of Iraq's total rice imports, estimated at 450,000 tons. In the past Pakistan and Thailand had been larger suppliers.

High world sugar prices caused the value of Iraqi imports to soar to about $250 million in 1980. Brazil, the Philippines, and France were important sources of the 500,000 tons imported last year. Sugar was the third most valuable agricultural import, following wheat and rice.

In 1979 and 1980, Iraq made much larger than expected purchases of various farm products in a number of countries. One of the surprises was Iraq's return to the market as a major buyer of frozen chickens. Large purchases of frozen poultry by Saudi Arabia and Iran depleted the exportable supply available in Brazil in early 1980, and led to Iraq's purchase of 25,000 tons of U.S. frozen chickens valued at $32 million.

U.S. agricultural exports to Iraq soared 75 percent in 1980 to a record $255 million. The leading item was 268,816 tons of rice valued at $123.7 million, followed by $62 million for wheat. Frozen poultry, barley, and eggs were the other major commodities. During late 1980 Iraq became the leading market for U.S. eggs, with shipments valued at $8.7 million.

While India and Bulgaria have provided most of Iraq's recent tobacco imports, Iraq is a booming market for American and British cigarettes. Brazil supplies most of Iraq's expanding imports of soybeans and soybean oil. Imports of palm oil from Malaysia and Singapore usually exceed 150,000 tons per year.

Outlook

Iraq's agricultural production should increase markedly in the 1980's. The ample availability of fertilizer made from petroleum by-products and ample funds for building irrigation facilities are indications that farmers will have the resources to bolster yields. Heavy migration from rural to urban areas reflected opportunities for a better standard of living. Policies to allow more private enterprise and less emphasis upon public firms in the economy may contribute to a rebound in commercial farming. Petroleum from Iraq is again flowing through pipelines in Turkey and Syria, although damage from bombing of facilities in Kirkuk seriously reduced output.

If the Iran-Iraq war ends or falls into a non-active status, food imports by Iraq may show striking gains in coming months. Port congestion in neighboring countries where goods are being unloaded for Iraq has caused a lull in Iraqi purchases from the U.S. and Australia, the chief grain supplier. Also, some items, such as top-quality U.S. rice, are not currently available in the quantities desired. When the new U.S. rice crop becomes available in August, sizeable purchases by Iraq are likely.

Spectacular gains in Iraq's imports of eggs, dairy products, meat, and oilseed products are likely in 1981. Despite reasonably favorable weather, larger wheat imports in 1981/82 are likely. Total grain imports in 1981/82 may exceed 3 million tons.

U.S. agricultural exports to Iraq could rise to a new peak of more than $300 million this year. The composition of the commodities may be very different than in the past. New policies concerning imports of processed foods from other countries could soon mean a much more diversified list of items purchased by Iraq in the United States. (John B. Parker)

Israel

The Economy

In 1980 Israel's agricultural production increased by only 0.5 percent, compared with 2 percent in 1979 and 4.5 percent in 1978. The main objective of Israeli economic policy continued to be the improvement of Israel's balance of payments position and the lowering of the very high rate of inflation. The balance of payments picturé improved somewhat in 1980.

In 1980, food prices rose faster than general inflation. After an increase of 135.6 percent in the index of food prices (excluding fresh fruit and vegetables) in 1979, the same index rose 152.4 percent in 1980. The policy of slashing consumer subsidies as a method of restraining demand did affect the distribution of price hikes. Israel's complete indexation system, which periodically adjusts the value of incomes, assets, and liabilities according to changes in the CPI, cushions the effect of inflation on most sectors of the economy. However, uncertainties associated with such high inflation rates have definitely affected investment decisions, as expectations of further inflation make economic decisions very difficult.

Agriculture's growth rate would have been negative in 1980 except for an unusually large wheat crop. Meat and eggs continued to be in surplus as steep price increases discouraged demand. During the past 3 years, it has been Government policy to limit agricultural production through credit control. Input prices increased faster than returns from sales and sharply increasing finance costs also cut into farmers' income.

Agricultural Production

Excellent rainfall during the 1979/80 winter season raised wheat output to 250,000 tons, the largest crop since 1974's 274,000-ton harvest. Wheat imports declined to 491,000 tons, compared with 531,000 tons in 1979. The excellent crop caused some marketing problems. Last year was a "Sabbatical" year in which religious Jews, mostly orthodox, who comprise about 15 percent of the population, are not permitted to eat produce from Jewish farms. Many millers and bakers therefore refused to use locally produced wheat and the Government, which handles all wheat purchases, had approximately 80,000 tons of exportable wheat. This, however, likely was sold in the Occupied Territories, since Israel continues to supply about 18 percent of wheat consumed in the Gaza and on the West Bank.

Local feed grain production is small and almost never enters commercial channels. Feed grains are not subsidized. The excellent weather increased the planting and resulted in a barley crop of 28,000 tons, more than a sevenfold increase over 1979. Total feed grain output was 41,000 tons in 1980, compared with 7,000 tons in 1979. Consumption continues at 1.1 million tons. Provisional disappearance data for feed grains show a decline of 5.3 percent in 1980. This more or less corresponds to the smaller output of livestock products.

Israel's cotton output for 1980 totaled 78,000 tons, 1,000 tons below the record 1978 crop. The 1979/80 season was one of the best in many years.

Cottonseed is the only economically important oilseed produced in Israel. Safflower production was only 700 tons, dispelling earlier expectations that this oilseed could become more important to Israeli farmers. Peanuts and sunflower seed are produced primarily for direct consumption. More whole cottonseed is being fed to cattle. The reason is pricing policy. While it would appear more logical to crush the cottonseed for oil and meal for animals, most of the large cooperative farms (kibbutzim) have both cotton and dairy production and can buy back the seed at prices lower than those for equivalent feed.

Israel is the world's largest per capita importer of U.S. soybeans, with purchases continuing at the 400,000-ton level. Soybean crushing is determined mainly by Israel's oilmeal requirements, and in recent years oil has been imported from the U.S. to make up the shortfall in oil production.

Israel did not produce sugar in 1980. However, increasing world sugar prices encouraged one of the country's sugar mills to contract with Israeli farmers for sugar beet production in 1981. The mill intends to produce 15,000 tons of sugar, requiring 100,000 tons of beets. In 1979 Israel produced 140,000 tons of beets.

Production of all vegetables in 1980 increased by 2.6 percent, despite a 19-percent decline in potato output. The sharp cutback was an effort by producers to raise domestic prices. Production of all melons including watermelons also declined, continuing the trend of recent years. Sharply increasing transport and handling costs have caused these crops to be slowly priced out of the market.

Exports of potatoes and onions were sluggish as shipments from other Mediterranean countries made competition for traditional European markets keener, and farmers were generally disappointed with export earnings.

Israel's citrus production has remained at 1.5 million tons in recent years, while area continues to decline. The 1980/81 crop is estimated to be slightly lower than the

1979/80 crop primarily because of late blooming, extreme weather changes during the fruit-setting period, and a minor factor, the biennial lemon cycle. With the exception of lemon and some easy-peel varieties of oranges which are not exported in large quantities, all major citrus varieties are considered a losing proposition if normal return for capital invested is expected. Farmers have tended to replace low-yielding citrus with better paying crops where the return on investment is higher.

Abnormally cold weather during the flowering and fruit-setting stage of avocado trees virtually wiped out the crop in 1980. It was estimated that only about one-fourth of a normal crop was harvested; a normal crop is about 35,000 tons. Production in 1979 was 33,000 tons, with about 85 percent exported.

Cow milk production declined 2.7 percent in 1980, with consumption down about 10 percent. In November 1979, Israel removed the milk subsidy, resulting in frequent and steep increases in prices of milk and by-products. From October 1979 to November 1980, the price of milk rose by 337 percent, butter by 287 percent, and the least expensive hard cheese by 322 percent. Consumption of these products declined. Despite these huge price increases, the number of dairies declined, especially smaller ones that could not fully utilize their equipment as production costs per unit increased.

Cattle numbers in Israel continued to decline, with about 300,000 animals in 1980, down 10 percent from 1977. Beef production increased by 9 percent because of culling of dairy animals. This increase, however, seems to be temporary and the overall downward trend in beef output should continue, especially as the smaller dairyherd will produce fewer calves.

Beef consumption is declining, especially on a per capita basis. The absolute decline from 1978 to 1979 was 3.6 percent, while the per capita decline was almost 6 percent. In the first half of 1980 the decline of all meat products including poultry was 8 percent from the same period in 1979. This is one of the first indications that Israel's inflation rate is beginning to influence consumption patterns.

Egg production and consumption stabilized toward the end of 1980. Israel contined to suffer from egg surpluses, which are disposed of through exports at a loss. Some eggs were shipped to a new market in Egypt.

With frequent price changes related to the declining value of Israel's currency and the increasing world prices of frozen beef, all elements of price stability seem to have disappeared from the internal market in Israel. As the check of heavily subsidized broilers disappears, prices are in fact dictated by the Government, which is the sole supplier of imported beef. The result is declining consumption.

Agricultural Policy

As of late 1979, the only direct subsidy remaining for an agricultural product was for broilers. Bread was subsidized but at the bakery. Some agricultural products, such as dairy products, fats and oils, eggs, flour, and some minor items, remained under price control, with prices frequently adjusted. These adjustments, however, were not frequent enough for producers, who faced monthly input cost increases of up to 12 percent. Consequently, while one department in the Ministry of Industry and Trade increased feed grain prices, another department, responsible for price control, failed to adjust product prices on time. Both producers and consumers demanded an early reinstatement of the subsidy system. However, the Government withstood the pressure for most of the year. At the end of 1980, however, the Government did relent and stopped price increases of controlled products.

Agricultural credit in 1980 continued to be extended only to export-oriented production. Credits for export production had interest rates one-third or less of commercial rates. Since Jewish agriculture in Israel is largely organized into cooperatives, it was the cooperatives who bore the brunt of withdrawal of subsidized credit. Since commercial rates are at 40 percent per annum, it is only a matter of time before the weaker production units fold up.

The Ministries of Agriculture and Finance have agreed on a IS100 million ($11.3 million) assistance program to exporters of Israeli farm produce (primarily citrus, fresh cut flowers, fresh vegetables, and goose liver) to cover current marketing season losses brought about by the domestic inflation and revaluation of European currencies. The grants and loans are being made to encourage continuation of agricultural production for export and improve the exporters' cash position.

In 1980, the price relationship between cotton and wheat changed, with a 30-percent increase in the real price of wheat. If this persists, area planted to wheat may increase, reversing a long-term declining trend. On the other hand, with the sharp increase in the price of water, auxiliary irrigation for wheat has now become quite unprofitable. The cost of water plays an increasingly important role in production planning in Israel. In cotton, for example, high water prices held back acreage increases in 1980. Ironically, when the planting season was over, water prices did not increase as much as anticipated.

Agricultural Trade

Throughout the 1960's and 1970's Israel made a concerted effort to increase agricultural production for export. Prior to that, with the exception of citrus (the traditional export of Israel), exports consisted mainly of items which happened to be a surplus on the domestic market. In 1968/69, citrus comprised 76 percent of total fresh exports, whereas by 1979/80, in spite of increased citrus exports, they comprised only 42 percent of fresh exports.

Exports in 1979/80 declined by 11 percent from the previous year. There were no radical changes in export destinations. Israel's principal markets continue to be West Germany and the United Kingdom. Scandinavian countries, Finland in particular, were important. Exports to Eastern European countries outside Yugoslavia were important. Israel continues to export about three-fifths of its citrus output to the EC, approximately 557,000 tons in 1979/80.

Israel's agricultural exports in 1980 were estimated at $744 million, up 4.2 percent over 1979. Close to 40 per-

cent of farmers' income in Israel comes from agricultural exports. While Israel continues to export traditional agricultural commodities, newer items such as flowers have made substantial inroads. Flower exports were estimated at $83 million in 1980, compared with 827 million in 1979. Agricultural imports were at the $1 billion level, slightly below 1979. Wheat, feedgrains, and oilseeds lead the list, with the United States as the leading supplier. U.S. agricultural exports to Israel totaled $300 million.

Outlook

Wheat for 1981 has gotten a good start and, unless radical weather changes occur, another bumper crop is anticipated. Over the longer term, however, grain production is expected to decrease, as agricultural production becomes more intense. Consequently, Israel's dependence on grain imports will increase. Israel's 5-year plan for agriculture foresees an annual growth rate of about 5 percent, which looks somewhat idealistic in view of results for 1979 and 1980. Israel's agriculture will continue to be plagued by increasing input costs, increasing energy costs, tight credit, and increasing income dependence on the strength of European currencies, as well as competition from European producers such as Spain. (Michael E. Kurtzig)

Jordan

The Economy

During 1980, the Jordanian economy maintained a healthy growth rate, and this will likely continue. Jordan's gains were not just economic; it has also made social progress. Income is up, literacy has improved, life expectancy has lengthened, and what was a serious unemployment problem for decades has turned into a labor shortage, as an estimated 20 percent of the labor force is employed outside the country.

Since 1975 the GDP growth has averaged 9 percent annually in real terms. In 1979, it slowed to 7 percent because of drought which halved agricultural production. But the growth rate moved up again in 1980.

Jordan (East Bank only), with a population of 2.25 million, is a food deficit country. Its current account deficits are covered by foreign aid, worker remittances, and recently some foreign borrowing. However, a program of expanded export-oriented production is part of Jordan's plan to reduce these trade deficits.

Jordan has a very limited natural resource base and a very limited water supply. Less than 4 percent of the total land area is arable; the balance is arid desert or barren mountains. This arid area includes rangeland where most of Jordan's livestock graze. Even of the arable land, ninety percent is dependent on limited, sporadic rainfall and subject to long periods of drought such as the recent 1975-1979 dry spell.

Agricultural Production

During the 1970's agriculture's share of the GDP fell from 20 percent to about 10 percent by the end of the decade. Two-thirds of agriculture's contribution comes from crops and the rest from livestock. The percentage of the labor force engaged in agriculture has also dropped—from an estimated 36 percent in 1960 to only about 18 percent in 1980—and many of those employed in the rainfed areas also work at least part time in nonagricultural jobs.

The 1980 wheat crop of 134,000 tons was considerably below earlier estimates but still a good crop that will supply about a third of the annual wheat needs. Wheat requirements are expected to exceed 400,000 tons in 1981.

Barley output was 49,000 tons for the East Bank, 11 percent higher than in 1979. Jordan has imported an annual average of 45,000 tons of barley 1977 through 1979 and will need at least this amount in 1981. In addition it will also need to import some 140,000 tons of corn and about 45,000 tons of oilcake and meal to meet its feed needs for 1981. Jordan grows only a small amount of corn.

Jordan's principal vegetable oil crop is olives, which were a record 44,000 tons in 1980. An estimated three-quarters of this crop was crushed for oil and the remainder consumed. About 14,000 tons of lentils, vetch, and chickpeas were reportly produced in 1979.

Livestock, including poultry, is important in Jordan's agriculture. Almost all the animals are raised in the uplands. Some 748,000 sheep are the principal source of red meat. They also supply milk and wool. About 400,000 goats are next as producers of red meat and milk. Jordan also has 36,000 cattle. About 85 percent of Jordan's cattle are a local breed—"baladi"—with low average milk output (about 500 kgs. per season), but tolerant of hard conditions and poor feeding. The balance of the national herd are Friesians. Camels number about 16,000 head but their numbers are declining, because Bedouins are gradually adandoning nomadism and settling down to one-location living.

During the 1970's the poultry industry expanded from some 250,000 birds in 1970 to over 4 million in 1980. Egg production has likewise increased, as layers rose from 110,000 in 1970 to over 1.6 million in 1980. The rapid expansion was due to relatively inexpensive loans, liberalization of feed concentrate imports to feed mills, high duties on imported eggs, and provision of feed at reduced prices during drought years.

It appears that 1981 will be yet another good year. Early season indicators pointed to an increase in planted area as well as higher crop yields for the principal winter crops. If favorable weather conditions continue, 1981 output could reach record levels.

Agricultural Policy

Jordan is now preparing its Fifth Development Plan (1981-1985), which will be heavily oriented toward agriculture. Proposed projects include construction of the Maqarin and Wadi Arab dams, raising the heights of present dams, building additional irrigation structures, plus watershed management and soil conservation programs, afforestation and fruit tree planting, agricultural research and extension, pest control, livestock production and animal health, seed and seedling production, and

farmer training.

In an effort to encourage the production of more wheat, barley, and lentils in 1980, the Government raised its guaranteed purchase price. Price supports for 1980 crops were comparatively high—$340 per metric ton for wheat, $194 for barley, and $612 for lentils. For other crops in a price slump, the Government quickly stepped in with offers to buy all available supplies and thereby regulate food price fluctuations. As a part of its longstanding policy, the Government heavily subsidizes bread prices and regulates the prices of many other food items.

Jordan has made recent bilateral agreements with neighboring countries. After the Iraqi-Jordanian ministerial committee for economic cooperation met, an agreement was signed in November 1980 to increase trade and cooperation in all fields. At this meeting it was also agreed to encourage Iraqi firms to increase their imports via Aqaba Port, to further activate the transit trade between the two countries.

On August 29, 1980, Jordan signed a revised protocol with Turkey to import 75,000 tons of wheat, 15,000 tons of wheat flour, and unspecified quantities of barley, chickpeas, and red lentils during 1981.

Jordan receives substantial agricultural aid in loans and grants from foreign countries. The United States is one of the principal donors, providing a wide range of assistance in irrigation infrastructure, roads, schools, clinics, community housing, and feasibility studies.

The EC is assisting with the construction of a major greenhouse and nursery complex to produce vegetable seedlings for transplanting in the Jordan Valley, and West Germany is helping with the construction of a marketing center. In addition, the World Food Program assisted with a fruit tree planting project in conjunction with soil and water conservation in the uplands. Australia is supplying general technical assistance where needed to develop agriculture, and CARE, under a USAID grant for community development, is undertaking land terracing and range resource development.

Agricultural Trade

In 1980, Jordan imported about two-thirds of its food requirements in grains and meats and all its rice, sugar, tea, and coffee. However, it hopes that by 1985 the Jordan Valley will produce enough fruits and vegetables to meet both the domestic demand and to generate enough exports to pay for all its other food imports. Since 1970, food imports have increased about 360 percent.

Jordan's agricultural imports increased from $336 million in 1978 to more than $450 million in 1980—quadruple the 1973 value. The rapid growth has led to substantial improvements in the average diet. The diversification of Jordan's agricultural imports has been enhanced by recent reductions in import duties on a number of food items and greater imports of animal feed for the booming poultry industry. Imports of wheat and flour reached 212,000 tons in 1979—nearly double the 1977 level—and the value rose from $20 million to $46 million. A poor wheat harvest in 1979 caused wheat imports to soar to almost 300,000 tons last year, valued at about $58 million. Turkey's shipments of wheat to Jordan rose to about 75,000 tons in 1980, while U.S. deliveries declined about 10 percent to 78,000 tons. In the last several years French and Australian wheat shipments have shown an upward trend. Rice imports exceed 30,000 tons annually, coming mostly from the United States and Egypt. The United States supplies most of the corn imports. Imports of oranges from Gaza and Egypt usually exceed 70,000 tons annually. Jordan imports over 20,000 tons of apples annually, mostly from Lebanon. Imports of dairy products from Europe soared in the last 3 years, partly because of EC export subsidies and local food subsidies. The EC provides over one-fourth of Jordan's agricultural imports.

Jordan's agricultural exports increased dramatically from $40 million in 1975 to a peak of $93 million in 1978, but then retreated slightly because of strong domestic demand. The leading item in recent years has been fresh tomatoes—valued at $17.5 million for 1979 (105,000 tons) and an estimated $20 million in 1980.

In the past decade Jordan developed steady markets for a wide variety of its fresh vegetables in Saudi Arabia and the Gulf sheikdoms. Exports of eggplant, for example, exceed $5 million annually. The dwindling arrivals of fresh vegetables from Iran and Iraq have caused Kuwait to seek more vegetables in Jordan. In 1980 Iraq signed an agreement to take $27 million of fresh vegetables annually from Jordan.

U.S. agricultural exports to Jordan more than doubled in 1980, reaching $71 million. Our exports of rice and corn more than doubled, and shipments of soybean meal increased by 35 percent to 24,600 tons. The rapid growth in Jordan's poultry industry pushed U.S. corn exports to 88,000 tons in 1980. Jordan purchased 2,500 tons of U.S. frozen poultry in 1980, although it is a considerable exporter of poultry meat and live chickens to Saudi Arabia.

Outlook

As national income rises, Jordan will continue to invest heavily in economic and social development, thereby providing opportunities for the sale of U.S. goods and services. The Government offers incentives designed to attract investment: special tax exemptions, full repatriation of all profits and capital, financial assistance, and in some cases free land. Jordan also has a good infrastructure, western business practices, and a good location to deal with growing Middle Eastern markets.

Hopes run high for agriculture in the Jordan Valley, which lies 200 meters below sea level and furnishes two crops each year. Jordan's plans are to increase agricultural productivity by 40 percent. Much will depend on foreign assistance and implementation of the new 5-year plan. The second stage of the Jordan Valley development is now beginning and will continue through 1985.

Since there are definite limits to water resources, there is some discussion of drawing water across the desert from the Euphrates River. However, this is still a suggestion. Of the estimated 500 million cubic meters of water used in Jordan each year, four-fifths now go for irrigation.

Jordan's agricultural exports should rise considerably

in 1981 because of new opportunities to sell vegetables and processed food in Iraq and the Arabian Peninsula. As a member of the Arab Common Market, Jordan can send a wide assortment of food items to Iraq and receive preference over some other suppliers. This has enabled Jordan to bolster exports of biscuits, canned tomatoes, candy, and snack foods to Iraq. Apparently, the duty-free entry of Jordanian processed foods changed Iraq's policy towards imports of processed foods and beverages from all countries, from one of strict limitation to a new policy of bargain purchases from Australia, Japan, South Korea, and the EC. (H. Charles Treakle)

Kuwait

The Economy

Kuwait's petroleum exports increased 11 percent to $20 billion in 1980, but income from foreign investments and services increased even faster. Kuwait has developed modern facilities for international investments, and many residents are regular customers of American and European brokerage firms, buying stocks, bonds, and commodities futures.

Over 95 percent of the 300,000 tons of nitrogenous fertilizer produced in Kuwait is exported, often through loans made to buyers in India and Bangladesh. New factories have also been built in the last decade to manufacture cement, candy, soft drinks, chewing gum, process soybean oil and meal and a number of other consumer items.

The influx of war refugees from Iran and Iraq pushed Kuwait's population to a record 1.5 million. Some of the merchants in the group of new arrivals made good use of Kuwait's duty-free port for transit trade to their former business associates in Iran and Iraq.

Agricultural Production

Expanded irrigation brought the total cropland area in Kuwait near 1,000 hectares. Alfalfa for dairies and imported sheep now covers over half of the cropland during the winter. Tomatoes account for about one-fourth of cropland use during the summer and cucumbers about one-fifth. Tomato output now exceeds 7,000 tons annually. Farmers can order the best American and European seed varieties at government expense. Local output of watermelons has expanded because of reduced imports from Iran.

Kuwait imports nearly 1 million sheep and goats annually. They graze on pastures during the winter, but consume imported animal feed during the summer, when very hot weather scorches the desert grass. Government subsidies provide payments for 50 percent of the cost of animal feed. Local output of poultry meat expanded to nearly 20,000 tons in 1980, and output of eggs rose to about 10,000 tons.

Agricultural Trade

In 1980, Kuwait's total imports rose to about $9 billion, including $1.1 billion for agricultural commodities. Food imports have nearly doubled in value since 1978. Higher prices for processed foods accounted for some of the increase. However, a shift in consumer purchases to higher quality products and a greater use of subsidies also contributed to the rise.

The value of Kuwait's imports of fruits, vegetables, and vegetable products soared to about $300 million in 1980. This included larger imports of apples from the United States, EC, and Chile; more bananas from Ecuador and Central America; and more canned fruits and vegetables from Spain, Italy, and Greece. Kuwait has now become concerned about finding reliable suppliers of imported fresh produce. In the recent decade, fresh vegetables from Lebanon, Jordan, Iran, and Iraq have dwindled. Occasionally India banned exports of onions and potatoes, which aggravated shortages and resulted in higher prices in Kuwait. Recent investments by the Kuwait Fund for Arab Economic Development put priority on agri-business projects to develop reliable suppliers for Kuwait. Plans to bolster vegetable production in the UAE and Oman for sale to Kuwait have been explored. During some months Saudi Arabia is the leading supplier of fresh vegetables imported by Kuwait.

Cereal imports in 1980 included about 240,000 tons of wheat, 110,000 tons of rice, and nearly 150,000 tons of feed grains and cereal products. The value for the imports increased about 25 percent in 1980 to nearly $200 million. U.S. shipments of rice and corn to Kuwait skyrocketed, although Pakistan remained the leading supplier of rice and Thailand continued to supply most of the corn. Kuwait's imports of barley from France and Australia increased markedly, to over 50,000 tons.

Denmark remained the leading supplier of frozen poultry, but Kuwait purchases of U.S. chicken and turkey parts increased to over $1 million. Imports of poultry meat rose about 10 percent to approximately 21,000 tons in 1980. Imports of live sheep and goats increased nearly 20 percent to 1 million head. Australia was the leading supplier, followed by Sudan and Ethiopia. Imports of beef from Australia and Latin America increased over 15 percent to about 22,000 tons.

Imports of processed foods continued to rise at a rapid pace. The large number of immigrant workers in Kuwait and the traditional use of Salem Street for shopping by workers on their way to jobs in Saudi Arabia and Iraq have added to the boom. Kuwait has the highest per capita imports of chocolates in the world because of the tradition that migrant workers carry large chocolate bars back home for their children.

Outlook

Kuwait's food subsidy system is expanding. If recent trends continue, total agricultural imports may rise to $1.5 billion, including $100 million from the U.S. Shipments of U.S. grain through Kuwait mostly for Iraq increased in early 1981. Kuwait is also buying more U.S. eggs, apples, and snack foods. (John B. Parker)

Lebanon

The Economy

Lebanon's security conditions improved throughout 1980, helping most sectors of the economy. Although official statistics have not been published since 1973, private and semi-official sources indicate significant improvements in 1980 over 1979. Unfortunately, before the first quarter of 1981 had ended, internal security was again threatened and open warfare broke out this spring. If the conflict is not settled soon, it will likely upset the earlier progress.

In 1980, exports were up an estimated 54 percent. Despite this increase, Lebanon had a trade deficit, but it was offset by remittances of Lebanese working abroad and assistance from Arab and other countries. The increase in trade was partially due to inflation of 25 to 30 percent, which undermined Lebanon's relatively good economic performance. The Government's deficit financing encourages inflation, but the Government must follow this course since it is unable, because of war-related instability, to collect enough in custom revenues and taxes.

Agricultural Production

Agricultural statistics have not been published since 1975. Therefore, all statistics cited are best estimates, derived from private and semi-official data and subject to error and change. The trend in cereal production is down from 76,000 tons in 1974 to 35,000 tons in 1980 and is not expected to exceed 30,000 tons in 1981. Output of industrial crops such as sugar beets and tobacco, whose prices are supported by the Government, also declined in 1980. Sugar beets totaled only 43,000 tons, down from 108,000 in 1979. Tobacco, at 3,500 tons, was down from 5,000 in 1979 and was only 38 percent of the 1974 output. These declines are attributed to both unstable political conditions and a shift to other crops, since the weather was not unfavorable and there was no apparent shortage of fertilizers and other inputs. Production of off-season vegetables and strawberries has been increasing as the potential of these crops is recognized.

Higher market prices for pulses indicate that lentil and chickpea production should increase in 1981 by at least a quarter more than the 1980 harvests of 3,000 and 4,000 tons, respectively. Dry bean and broad bean harvests of 3,000 tons each are also expected to be up in 1981. Strong demand by neighboring Arab countries has encouraged vegetable output, especially of potatoes, which are expected to increase by more than 10 percent above the 1980 harvest of 135,000 tons.

Climatic factors lowered orange output, and disease reduced lemon production. Thus citrus output was lower for 1980. Noncitrus fruit production fluctuated. Grape production increased due to rising demand for local wine plus a good export market for wine. Olives, enjoying ideal weather for a cyclical on-year, produced a record 75,000 tons. However, 1981 production is not expected to exceed 40,000. Poultry meat and egg production appears to have regained the prewar level, and reached 21,800 tons of meat and 640 million eggs in 1980, compared with 20,300 tons of meat and 581 million eggs in 1974. If the political situation remains reasonably stable, an increase of 10 percent is forecast for these products in 1981.

Agricultural Policy

Every year the Government of Lebanon issues an "agricultural calendar" which regulates imports of agricultural commodities that compete with local production. The Government bans imports of several commodities and requires import licenses for others. It also stipulates the off-season period when fruits and vegetables can be imported without a license. Licensing and import levies cover many consumer items to raise revenue and cover losses from subsidies supporting local production.

Because of an insecure civil situation, these trade restrictions, customs, tariff and licensing regulations are difficult to enforce, and a large volume of items enters and departs through illegal ports. This benefits only the contraband traders and internal purchasers of unregulated commodities, as the retail prices of these products in Lebanon are among the lowest in the world.

Active market promotion is carried on by the Lebanese Fruit Office, an agency of the Ministry of Agriculture. The office each year participates in a number of regional and international trade fairs, displaying Lebanese fruits, canned foods, and wines.

Agricultural Trade

Lebanon's wheat needs are met almost entirely by imports. Domestic output is either held by producers or marketed locally. The 1980 wheat imports were about 318,000 tons; the United States supplied 131,650 tons. Local feed grain consumption was estimated at about 222,000 tons, although nearly 400,000 tons were imported. Feed grain re-exporting has been a big business in recent years because of the expansion of poultry and other livestock sectors in neighboring Arab countries. The United States supplied over 258,000 tons or some 89 percent of the total corn arrivals in 1980. On the other hand, the U.S. supplied only about 5 percent of an estimated 40,000 tons of rice, which Lebanon imported in 1980.

About 66,000 tons of soybeans were imported for crushing in 1980; the U.S. supplied about 43,000 tons. The largest mill was down part of the year but is now in operation, and crushing will probably double in 1981. Soybeans are the primary source of vegetable oil and meal. Current vegetable oil consumption is about 35,000 tons and meal near 50,000 tons.

Lebanon produces 90 percent of its poultry meat needs, but since the poultry meat price is about a third of the mutton price, demand is increasing and imports may rise steadily.

Since the dairy herd was severely reduced in the 1975-76 hostilities and has not yet recovered, dry whole milk, cheese, and butter are all imported to supplement the

domestic supply. Other important imports include 70,000 tons of sugar, as each year's domestic production is only a half-month's supply; 30,000 tons of lentils, of which about 12,000 tons are consumed and the balance re-exported; and manufactured tobacco products, which are sometimes taken in barter for Lebanon's oriental leaf and used for blending.

U.S. agricultural exports to Lebanon in 1980 totaled $91.6 million, as compared to $69.9 million in 1979. U.S. agricultural imports from Lebanon were $11.7 million for 1980, primarily tobacco.

Outlook

Economic activity is expected to continue the upward trend started in 1979, if there is an early settlement of the 1981 hostilities.

Because cultivable land is limited and expansion through major irrigation or land reclamation projects is unlikely in the near future, Lebanon is expected to become increasingly dependent on imports to meet its food requirements. Also, the expansion of Lebanon's food processing industry, storage facilities, and soybean processing capacity indicates a growing market. In addition, trade and banking sectors are operating with facility, and no curbs of any kind are imposed to hinder transfer of funds in and out of the country. Therefore, if internal conditions permit, it is expected that overall trade, along with agricultural trade, will increase significantly in 1981. (H. Charles Treakle)

Oman

The Economy

Increased petroleum revenues pushed Oman's GNP to $4 billion in 1980. New roads and modern buildings in the urban strip from Muscat to the international airport 35 miles north show how dramatically petroleum wealth has affected the country's economy. Low import duties and policies favorable to free enterprise have also contributed to the remarkable improvement in the average standard of living in the last 5 years.

Agricultural Production

Further expansion of irrigation in the Batinah Plain and some inland oasis areas contributed to increased output of alfalfa, sorghum, and vegetables. Corn has also become a popular crop for the newly irrigated fields. It can be grown in the summer in the same fields where alfalfa is grown during the winter. Concern about a possible reduction in the water table has slowed down the drilling of new wells to tap irrigation water in the Batinah Plain. Yet the heavy rainfall during March in the Harrar Mountains provided an unusually heavy runoff, and water table concerns should not hamper further expansion of irrigation during 1981.

Sohar has become the success story of Oman's agriculture. The modern dairy and 1,000-acre irrigated farm established there by Americans has become a model for many small farmers in the Batinah Plain. Sohar has also developed modern irrigation systems and entered commercial farming on a considerable scale. This has resulted in alfalfa output reaching 100,000 tons—double the 1976 level. Vegetable production has surpassed 120,000 tons—also double the 1976 level. Many small new date, fig, and lime orchards have been planted near villages. In 1980 Oman produced about 90,000 tons of bananas, 45,000 tons of dates, and 35,000 tons of limes. Subsidies encourage farmers to buy more fruit trees from local nurseries. In addition, government subsidies, loans, and partnership arrangements have contributed to the recent expansion in output of poultry meat, eggs, and milk in Oman. New dairies at Sohar and Ruwi use imported dry milk to blend with fresh milk from local cows. Off-farm income remains a major source of funds for investment in agriculture. Many men migrate from Oman to Saudi Arabia and UAE seeking jobs with good pay. They then return with their savings and invest in agriculture.

Agricultural Trade

In 1980 agricultural imports by Oman increased about 14 percent to $117 million. Over 30,000 tons of wheat came from Australia, and 5,250 tons of wheat were imported from the United States. U.S. exports of corn to Oman rose to 6,000 tons valued at $733,000. Total U.S. agricultural exports reached $4.5 million—more than double the 1979 level because of the new sales of wheat and corn, plus strong gains in sales of fruits, vegetables, and processed foods.

Oman imports over 100 food items from India and is usually the leading export market for most agricultural items and some processed foods shipped from India. The transit trade to Iran in rice and processed foods picked up in 1980, although shipments of imported cigarettes to Iran declined. Oman now imports nearly 200,000 tons of grain annually, including over 100,000 tons of wheat and flour, nearly 50,000 tons of rice, and about 50,000 tons of feed grains and cereal products. Pakistan and India provided most of the rice in the last several years. Australia and Sudan are the leading suppliers of feed grains. Some rice bran is imported from India for animal feed. The new flour mill at Matruh has contributed to the import shift from wheat flour to wheat.

Outlook

Further gains in a wide range of U.S. farm products to Oman are likely, particularly for processed foods and livestock products. Our agricultural exports to Oman might reach $10 million in 1981. Prospects are good for larger U.S. sales of snack foods, fruit juices, apples, pears, pulses, and corn to Oman. (John B. Parker)

Qatar

Petroleum exports climbed to a record $5.6 billion in 1980—up from $3.8 billion in 1979 and $2.0 billion in 1977. While the total population of Qatar increased by 7 percent in 1980 to about 225,000, petroleum revenues have pushed per capita GNP above $25,000. Qatar's indi-

genous population has remained relatively stable recently but the Iran-Iraq conflict did accelerate the number of immigrants coming to the country. Large exports of petroleum are expected in 1981 and plans to develop exports of liquefied natural gas could push exports to very high levels in the next few years. A second fertilizer factory is under construction at Umm Saad, and exports of nitrogenous fertilizer to South Asia are scheduled to increase.

Qatar's agricultural production increased more than 10 percent for the fourth year in a row. Generous subsidies, including cheap fertilizer, free seed, and animal feed at only half the import cost, have spurred output.

Vegetable production increased to about 120,000 tons in 1980, including over 25,000 tons of tomatoes and 20,000 tons of melons. Vegetables flourish under irrigation during the winter and in greenhouses during the summer. Qatar is self-sufficient in fresh vegetables during most of the first half of the year. Exports to Kuwait have increased as deliveries to that market by Iran, Iraq, and Syria have dwindled.

Qatar produces over 28,000 tons of sorghum, mostly for animal feed. About 30,000 tons of dates were produced in 1980, partly from new orchards planted in the last decade. Qatar is virtually self-sufficient in dates. About half of the poultry meat and 60 percent of the eggs consumed in 1980 came from local producers.

Agricultural imports soared to about $170 million in 1980, compared with $129 million in 1979. Australian shipments of wheat increased 46 percent to 36,800 tons. Also, Australian shipments of live sheep rose to 160,000 head in 1980. Pakistan and India sent more rice as Qatar's total rice imports rose to about 32,000 tons in 1980, double the 1976-78 average.

U.S. agricultural exports to Qatar in 1980 reached $5.4 million, 80 percent above 1979. Our rice exports went from 431 to 6,140 tons, and the value increased by more than 100 times to $2.5 million. Our exports of eggs, frozen turkeys, fruit juices, and snack foods also increased markedly.

U.S. rice exports to Qatar are expected to decline in 1981 because of greater competition from Asian suppliers. Yet larger sales of poultry products, fruit juices, and processed foods could partly offset the decline in rice. Government subsidies for private imports of grocery items recently increased. This increase will mean less concern about the price of imported canned foods and more attention to quality. This should open up new opportunities for sales of U.S. processed foods, particularly to wholesalers servicing the new grocery stores in Doha. Total U.S. exports to Qatar declined from $138 million in 1979 to $129 million in 1980, while our imports from this country declined from $279 million to $237 million. Air conditioners and cigarettes are much more important items among our exports to Qatar than food. U.S. petroleum imports from Qatar declined in 1980 as it sent more of its crude oil to India.

Total U.S. exports to Qatar should increase substantially in 1981 because of new construction projects and the growing transit trade with Iran and Iraq. (John B. Parker)

Saudi Arabia

Thh Economy

In 1979 petroleum prices more than doubled, following a period of modest hikes during 1974-78. The quadrupling of petroleum prices in 1973 launched Saudi Arabia into a new economic era with massive development in housing, roads, marketing, and trade. The 1979 price hike contributed to spectacular gains in Saudi Arabia's role in world trade and banking.

In 1980 petroleum output increased to over 10 million barrels per day, and Saudi Arabia remained the world's leading exporter of petroleum. Total Saudi exports (over 99 percent petroleum) increased from $57.6 billion in 1979 to $102.5 billion in 1980. Higher world prices for petroleum stimulated an 80-percent growth in Saudi Arabia's GNP to $135 billion in 1980. Saudi Arabia now has about 11 million consumers—nearly 8 million permanent residents and about 3 million immigrant workers and their dependents.

The Saudi Arabian Monetary Agency (SAMA) receives the petroleum revenues and disburses funds through approved channels. Shares of large American companies in ARAMCO have been completely purchased by Petromin, the Saudi Arabian agency for the petroleum business. Yet over 3,000 American technicians remain in Saudi Arabia with ARAMCO. Saudi Arabia's foreign assets in December 1980 were 50 percent higher than a year earlier, indicating an inability to invest the monumental petroleum revenues accruing to the Saudi economy.

Many new programs have been implemented, providing loans for Saudis to establish or expand business activities. Food subsidies have been expanded to help reduce the rate of inflation.

The construction of modern port facilities at Jeddah, Damman, Al Khobar, Yanbu, and Jubail in recent years has contributed to a marked improvement in the efficiency of unloading imported cargo. The new naval port at Jubail has also recently been used for commercial cargo when other ports were congested.

Agricultural Production

Saudi Arabia is one of the success stories of agricultural development in the Mideast. A small part of the enormous petroleum wealth has been invested in irrigated farming, and subsidies have encouraged farmers to expand their operations. The volume of farm production doubled in the 1970's. A guaranteed price of $28 per bushel contributed to recent gains in wheat production to about 250,000 tons. Despite the high subsidy for wheat, some farmers without adequate equipment prefer to grow vegetables. Through government programs the best varieties of vegetable seeds are provided free to Saudi farmers.

Wheat production tripled in the recent decade, but output of millet declined sharply as more farmers shifted to wheat, vegetables, and alfalfa. Output of millet averaged more than 120,000 tons annually during 1970-72, but production in 1980 was only about one-tenth that level.

Improvements in the quality of irrigation in the major farm areas near Jizan (southwestern Saudi Arabia) and Qassim (central oasis area) contributed to the declining importance of millet. Also, farmers shifted to crops which were much more profitable. The demand for millet for food or feed has declined sharply. The 50-percent subsidy for animal feed has made imported barley, corn, and sorghum more popular. Sorghum output remained steady at 120,000 tons in 1980. Saudi Arabia now produces about 25,000 tons of corn annually—about five times the level recorded a decade ago and double the 1978 level. Corn has replaced millet in some of the best irrigated land near Jizan. The area planted in barley in the Asia highlands remained relatively stable and production in 1980 was about 25,000 tons. All of Saudi Arabia's rice crop of about 2,000 tons annually comes from Hofuf oasis, where technicians from Taiwan have helped bolster yields.

Agri-business investments near major cities have increased tremendously in recent years. Output of poultry meat, eggs, and cow's milk in 1980 was reportedly more than double the 1977 level. Local farmers and agribusiness operations produced about 50,000 tons of poultry meat in 1980, or about one-fifth of the total consumption. Local suppliers provided over half of the estimated 80,000 tons of eggs consumed in Saudi Arabia last year. Saudi Arabia has about 4 million head of sheep and goats, and about one-fourth of these animals are slaughtered each year to provide about 40,000 tons of meat.

Striking gains in output of vegetables and livestock products contributed to the 9-percent increase in Saudi agricultural production in 1980. Output of tomatoes exceeded 470,000 tons, nearly five times the level of a decade ago. New irrigated fields in the Harad, Qatif, and Qassim projects have provided excellent yields for tomatoes, onions, and potatoes grown during the mild winter. Annual vegetable production is now in the vicinity of 2 million tons. Watermelon output fluctuates from 600,000 to over 1 million tons, depending on summer weather. Trucks to transport crops to public open air markets can be purchased by Saudi farmers with very little money down because loans from the Agricultural Credit Bank will cover most of the 55 percent of the price they must pay. A government subsidy pays for 45 percent of tractors and other transport equipment purchased by farmers.

Agricultural Policy

The agricultural policy of Saudi Arabia is unique because so much petroleum wealth can be used to spur productivity. Modest subsidies provided in the early 1970's didn't provoke much response as many people migrated to cities where there was much more economic activity. In the late 1970's an excess of subsidies was provided, including $1,045 as the procurement price for a ton of wheat, and free seed of the most expensive varieties for vegetable farmers. The 50-percent subsidy payments for animal feed and fertilizer did not get much response until free trips to Europe and America were added for investors in significant agri-business projects. Livestock projects with technology obtained from Europe and North America became fashionable, and the array of subsidies and soft loans received considerably publicity.

The 50-percent subsidy for fertilizer has recently contributed to better care of date orchards. Date output has increased slightly in recent years to about 350,000 tons. New vineyards near major cities bolstered grape output to a record 65,000 tons in 1980. New peach and apricot orchards have been planted near towns in the Asia Highlands. Saudi Arabia has become a boom market for vegetable seed and nursery stock from the U.S. and Europe.

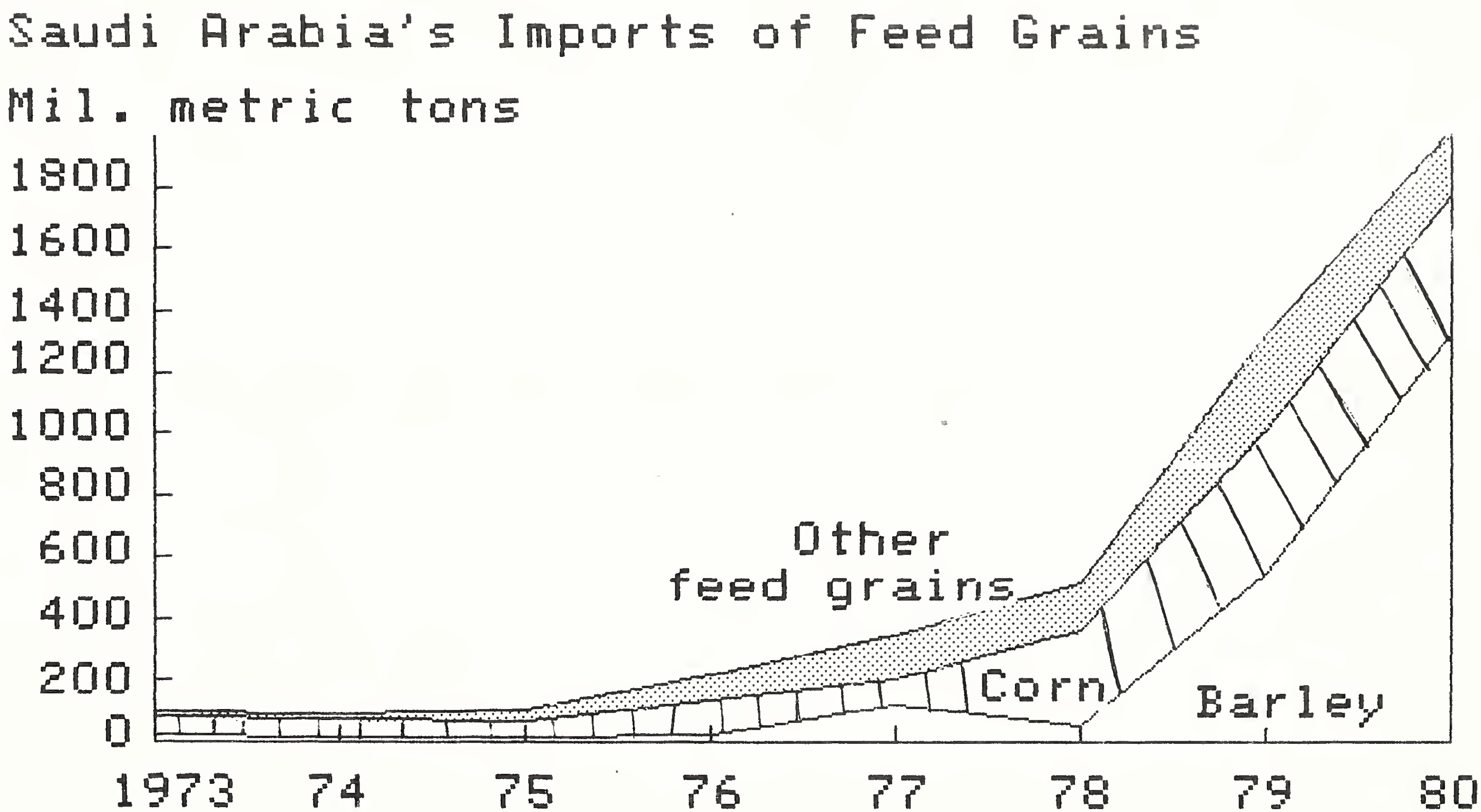
Despite indications in the Third Development Plan for 1980-85 that Saudi Arabia would like to become self-sufficient in many food items, demand is growing too rapidly to change the share of locally produced items in Saudis' diet. New dams near Jizan and substantial expansion in the area receiving irrigation have bolstered Saudi food output. Production of vegetables should double in the 1980's and fruit crops should show strong gains as new orchards and vineyards are planned. Self-sufficiency in wheat would carry a high opportunity cost, as it would shift land away from horticultural crops where profit potential is high and local demand excellent. Maintaining low consumer food prices and dispersing petroleum wealth to rural areas through subsidies will probably remain the key aspects of Saudi agricultural policy in the future.

Agricultural Trade

Saudi Arabian imports increased about 38 percent in 1980 to approximately $33 billion. This was nearly quadruple the 1976 level, but only one-third the value of petroleum exports. Agricultural imports increased from $3.0 billion in 1979 to an estimated $4.5 billion in 1980, and agriculture's share rose from 12.5 percent to 13.6 percent. In order to control inflation the Ministry of Commerce expanded its programs for subsidizing imported food. Inflation fell from a rate of 20 percent in 1977 to less than 7 percent in the last 2 years, partly because of subsidies and controls related to marketing of food and other consumer goods. Government subsidies paid to wholesale importers now average about 20 percent of the invoice value of all food and beverage imports. The subsidies may be increased in 1981, particularly for some key items where the import price is rising. Subsidies provided by the EC and Brazil, plus those available for approved marketing activities in Saudi Arabia, allow traders to reap benefits from both ends of the commodity flow.

Saudi imports of most agricultural commodities have shown an upward trend in the last 5 years. Yet growth in imports of wheat flour, corn, sesame, and tea have been modest in contrast to some other items. Barley has been a favorite item for livestock and poultry farmers because the combination of Saudi subsidies and EC subsidies has been attractive. Some other rapid growth items include milk, fruit juices, soft drinks, and drinking water because of the shortage of safe water in most Saudi cities and towns. Saudi Arabia's imports of beverages and beverage materials surpassed $800 million in 1980—more than double the value 3 years earlier. Improvements in grocery marketing facilities have contributed in the last several years to striking gains in Saudi imports of bakery

Chart 7


Saudi Arabia's Imports of Feed Grains
Mil. metric tons
1800
1600
1400
1200
1000
800
600
400
200
0
1973
74
75
76
77
78
79
80
Other
feed grains
Corn
Barley

products, cheese, butter, apples, bananas, confectionary products, nuts, and canned vegetables. Greater local production has caused imports of tomatoes, potatoes, onions, and some other fresh vegetables to decline from previous peaks. Demand for poultry meat, beef, and mutton has grown faster than local output, and imports of these items continued to soar in 1980.

In 1980, Saudi rice imports remained near the 1979 level of 496,000 tons. The sources changed dramatically. U.S. exports increased 21 percent to 224,000 tons valued at $128 million, $571 per metric ton. In early 1981 the average price for U.S. rice exported to Saudi Arabia was about $675 per ton, but because of the way the import subsidy is calculated, the higher price didn't slow purchases. U.S. rice sales to Saudi Arabia in the 1980/81 marketing season (August-July) may reach 300,000 tons.

U.S. agricultural exports to Saudi Arabia increased 15 percent to $375.4 million in 1980. Yet the U.S. share declined from nearly 11 percent in 1979 to less than 9 percent in 1980. Saudi imports of processed foods, dairy products, sugar, and beverages from other suppliers increased rapidly, contributing to the decline in our share. The lull in U.S. wheat shipments in 1980 was partly offset by much larger deliveries in early 1981. It now appears that U.S. wheat exports for 1980/81 marketing season (June-May) will rise to about 300,000 tons. Saudi consumers have a special preference for certain types of American wheat flour containing a specified quantity of ash. The boom in livestock enterprises contributed to the 50-percent increase in our exports of soybean meal to 47,000 tons.

Preliminary reports on barley imports in 1981 indicate a level of about 1.3 million tons—up from 408,000 tons in 1979. EC and Australian shipments were at record levels. Also, some U.S. and Canadian barley stored in Rotterdam may have moved to Saudi Arabia. Saudi imports of corn declined from 304,000 tons in 1978 to less than 250,000 tons in both 1979 and 1980. Saudi Arabia remained the leading market for Thai sorghum and a considerable market for Sudanese sorghum in the last 2 years, importing over 200,000 tons each year. U.S. exports of instant coffee remained above $8 million in 1980. Imports of tea rose to above $85 million. U.S. exports of cheese reached $1.4 million in 1980, more than double the 1979 level. Nevertheless, the EC, Eastern Europe, Australia, and New Zealand provide most of Saudi Arabia's growing cheese imports. The volume of these imports soared to nearly 58,000 tons in 1980—about triple the 1977 level.

The U.S. share of Saudi imports of fruit juices and pulp drinks remained less than 3 percent, only $6 million out of a total of $250 million. Japan and Taiwan continued to capture most of the growing market for fruit and pulp drinks. Saudi Arabia spent nearly $1 billion for beverages in 1980. Imports of milk and milk products continued to rise to approximately $240 million—more than double the 1978 level.

Saudi Arabia is one of the leading export markets for a number of U.S. food items. In the last several years it has been our number one market for peanut butter, salted peanuts, honey, and some snack foods. In the last 2 years Saudi Arabia was one of the top markets for U.S. beef, syrup, corn oil, tomato products, apples, corn chips, and canned beans.

Outlook

Saudi Arabia is likely to remain our leading supplier of petroleum and an advocate of stable or reduced petroleum prices. Changes in the food subsidies administration by the Ministry of Commerce could provide some new sales opportunities for American exporters. If most of the cost of quality food items above a certain benchmark price is paid by a subsidy, and most of the transport and distribution costs are covered, more Saudi importers may switch to American brands. With the exception of the EC, Saudi Arabia will be among the world's three leading importers for a number of items in 1981—including poultry meat, live sheep, fruit juices, milk, barley, and canned vegetables. Total grain imports may reach 4 million tons in 1981, up from 3.3 million tons in 1980 and 2.5 million in 1979.

The value of Saudi agricultural imports may rise to $6 billion in 1981, up 33 percent. The EC may capture one-fourth of this market. Larger sales of rice, processed foods, poultry products, corn, and soybean meal might push U.S. agricultural exports near $600 million in 1981. Total U.S. imports of petroleum from Saudi Arabia may reach $16 billion in 1981, up from $12 billion in 1980. (John B. Parker)

Syria

The Economy

Despite some difficulties, Syria recorded substantial economic growth in 1980. Real GDP may have increased as much as 13 percent. However, the inflation rate is in the range of 30 percent, foreign exchange holdings are extremely tight, several major projects in the public sector are behind schedule, and some are having operational problems. Also, confidence in the Syrian currency vis-a-vis other hard currencies has been shaken. There is an agricultural labor shortage that has taken its toll in harvest losses. Production and marketing costs have been escalating fairly steadily. Public anxiety about political events such as the proposed merger with Libya, the war in Lebanon, and the international situation also dampened the outlook just at a time when the agricultural sector was enjoying a very prosperous year.

Agricultural Production

For agriculture, 1980 was a very good year and for some crops one of the best. Rain in the fall of 1979 was on time, abundant, and well spaced. Throughout 1980, weather was equally favorable. Moisture levels in the area that is dry-farmed were adequately restored, giving a good start to 1981 crops.

Grazing was good for livestock. Dairy, sheep, and poultry production all expanded despite rising feed costs. In the past 3 years dairy cow and sheep numbers have been rising, and a general upgrading of the dairy industry has been partially accomplished by the import of some 5,000

heifers of Western European origin. Milk production, which dropped slightly in 1979 because of dryer weather, was up in 1980. Almost half of Syria's 760,000 cattle are milk cows that produced over 452,000 tons of fluid milk. Over 9 million sheep and goats, a third of which are milked, added another 400,000 tons of milk. An estimated 95,000 cows and calves were slaughtered for meat during 1980. Syria also imports and exports livestock. Fifty percent of an estimated 1.5 million sheep imported are slaughtered. The balance are exported to the Persian Gulf states.

Poultry operations expanded in 1980, with broiler production reaching a record of 37-40 million birds, compared with 28-32 million in 1979. Egg production topped 1 billion and is expected to reach 1.15 billion in 1981. Local output of day-old chicks also increased, and some 260,000 were exported to the Arab states during 1980. Despite higher feed costs, prospects for 1981 are good.

Wheat production for 1980 is estimated to be a record 1.95 million tons, exceeding earlier estimates. A serious shortage of labor and mechanical harvesters in southern Syria delayed harvesting well beyond the normal season, causing substantial loss due to shattering and birds foraging. Losses may have run as high as 200,000 tons.

Wheat and wheat flour consumption is estimated at 1.75 million tons, with milling capacity approaching 2,500 tons per day and eight new mills to be completed by 1982. Syria will soon be able to mill all its wheat flour needs. Barley production tripled in 1980 and is estimated at 1.2 million tons. Corn output, at over 50,000 tons, was not offered for government purchase. The Government, in turn, imported 220,000 tons during 1980, 170,000 from the United States. All 94,000 tons of rice imported were purchased from Italy. Despite high international prices, the rice is still sold to consumers for \$.10 per pound with a ration card and \$.17 per pound without. The lentil crop of about 80,000 to 100,000 tons was up from 1979. Chickpea output was a record 70,000 tons, well above earlier estimates.

Syria's vegetable oil is normally derived from olives and cottonseed, but cotton production is now declining. Olives, which normally have off and on seasons, had a record crop exceeding 320,000 tons, because an on-year coincided with ideal weather conditions. Minor quantities of peanuts, sesame seed, and sunflower seed are also produced and pressed for oil.

Sugar beet production is being pushed by the Government and production is rising. Output approached 400,000 tons in 1980 and an increase of 25,000 tons is hoped for in 1981, to supply new factories scheduled to open.

Grape production usually varies with the weather, since most vines are planted on nonirrigated lands. Recently, more vineyards have been planted. Of the approximately 400,000 tons of grapes harvested, some 60 percent are eaten fresh, 14 percent go for wine, 16 percent go for molasses, and 10 percent go for raisins.

Almonds and pistachios, like grapes, are principally nonirrigated, and production depends on rainfall, frost during flowering season, and summer temperatures. Harvests of 12,000 tons of almonds and 6,000 tons of pistachios were average for 1980.

The Ministry of Agriculture and Agrarian Reform has been encouraging citrus planting along the Mediterranean coast in the provinces of Latakia and Tartous. Citrus output is estimated to be up about 40 percent over 1979, with 45,000 tons of oranges, 13,000 tons of lemons, and 22,000 tons of other citrus. For apples, pears, and figs, moisture was favorable, but an April 1980 frost blemished an otherwise good crop.

Cotton production has been declining because both irrigated and nonirrigated land has been steadily shifted to more profitable crops. Tobacco, on the other hand, is on the rise, and production reached a record in 1980, with yields of all varieties improving.

Agricultural Policy

The agricultural sector is expected to receive greater emphasis in the next 5-year plan, and several areas need improvement. Structural problems include fragmented holdings, low levels of mechanization, and poor marketing methods. The extension service needs attention, and there is a lack of modern agricultural education. While policies neglect some problems, other problems may actually be made worse by government attention. On May 15, 1980, a land reform decree was issued that stipulated that the maximum landholding in the major grain production provinces should not exceed 200 hectares and that maximum ownership in areas of less than 350 millimeters rainfall should not exceed 140 hectares. This decree may hurt agricultural production in general and cereal crops in particular, because it will further fragment agricultural holdings and reduce production efficiency.

The Syrian Government continues to promote high support prices for agricultural producers and consumer subsidies for "vital" food items such as bread, rice, certain vegetable oils, and sugar. Prices of other agricultural products were allowed to rise in 1980 but not enough—from the producer's viewpoint—to cover the increase in production and marketing costs. In April 1981 higher prices were announced for agricultural inputs, further increasing the very high cost of production.

Arab ministers of agriculture met in Damascus in December 1980 to discuss cooperation and food security issues. Out of that meeting may come some assistance for Syria's new 5-year plan. Other countries giving agricultural aid to Syria include the Netherlands, the USSR, other eastern european countries and the United States. USAID has provided Syria with a comprehensive agricultural sector assessment report for possible use with Syria's fifth 5-year plan.

Agricultural Trade

Syria's total imports were about \$3.6 billion in 1979, of which about 14 percent was farm products, mostly foodstuffs. Of these the United States provided about 9 percent as the leading single supplier. U.S. agricultural items were mainly rice, corn, sugar, and soybean meal, amounting to \$45.8 million in 1979 and \$25.7 million in 1980. The United States purchased \$5.6 million in farm

products from Syria in 1979 and $6.9 million in 1980. Other suppliers of Syrian agricultural commodities include the Netherlands, Lebanon, Jordan, Cuba, West Germany, Belgium, France, and Italy.

U.S. prospects for trade with Syria in 1981 are fairly encouraging. With more demand for wheat to mill, instead of for flour, the United States may be in a better competitive position.

Outlook

With the groundwater at a good level as 1981 began, Syria should have another good year if weather continues favorable. Inflation may be agriculture's major problem, increasing production costs almost to prohibitive levels. Energy and labor costs are already high because the Government has decreed price rises for gasoline, diesel fuel, and kerosene. Food prices, especially for meat, will be very high, but producers will not profit from the higher prices because production costs are likely to exceed returns. (H. Charles Treakle)

Turkey

The Economy

Last year was another difficult one for the Turkish economy. An unstable political situation, coupled with terrorism, soaring inflation, energy and fuel shortages, and widespread strikes, reduced production in most sectors, while prices continued to increase. In spite of new economic measures introduced in January 1980, inflation could not be fully controlled, and the export sector did not perform up to expectations. In September 1980, with the economy deteriorating and terrorism increasing, the military took over and continued to implement the economic stablization program begun 9 months earlier. The program seeks mainly to encourage a free market economy and minimize state control. As a consequence, prices of fertilizers, fuel, sugar, and textiles increased several times. The rates of increase in price supports for agricultural commodities were much lower than increases in the cost of production inputs.

While there is no consensus on 1980 GNP growth, best estimates place it at 0.6 percent. Agriculture's growth is estimated at 3.5 percent, compared with 3.0 percent in 1979. In spite of a significant devaluation of the Turkish lira in January 1980 (from $1=TL35 to $1=TL70 for agricultural commodities) and several mini-devaluations since, total exports during 1980 did not reach planned levels. Imports were $7.1 billion. Agricultural imports were $270 million, more than double the previous level, with sugar and vegetable oil comprising three-fourths of the value. 0n a brighter note, remittances from Turkish workers abroad reached $2.1 billion, a 27-percent increase over 1979.

Turkey's economic recovery is clearly hampered by its oil import bill, $3 billion in 1980 and a projected $4 billion in 1981. All of the country's exports plus some of the workers' remittances are needed to cover these imports.

Agricultural Production

Turkish grain production increased by 2 percent in 1980. Wheat output was 13.8 million tons, 800,000 over 1979. Despite the record output, the amount exported in 1980 was only 500,000 tons. More than 2 million tons had been exported in 1978. In 1980 there was strong demand from neighboring countries. Iraq in particular sought 500,000 tons, but Turkey could only supply 50,000 tons.

For the second consecutive year, the Turkish government failed to increase wheat support prices sufficiently, holding them 50-60 percent below local market prices. The Turkish wheat buying agency (TMO) purchases were limited because of budget constraints, and much of the wheat was sold to the private sector at the higher free market prices. The TMO was able to purchase only about 1.7 million tons of a projected 3 million. Since the TMO's domestic sales range from 1.2 million to 1.4 million tons annually, this inability to purchase the desired level severely constrained exports. As a result, the Government for the first time authorized private dealers to export wheat. However, private sales did not materialize because of high profitability in the local markets and the high transport costs of exporting. Turkey therefore entered the 1981 crop year with record carryover stocks of 6.3 million tons, about three-fourths of the average production in 1972-74.

Barley production was a record 5.2 million tons in 1980. This resulted in dramatic export increases from 3,000 tons in 1979 to 500,000 tons in 1980. Both oat and rye output declined, as did corn. Exports of rye remained at 10,000 tons. Rice output was up 10 percent to 250,000 tons milled but was still short of demand. However, increased production resulted in considerable decline in imports in the past 2 years, from 61,482 tons in 1978 to about 10,000 tons in 1980. Local rice prices remained high at $1.20 per kilogram. Rice imports should increase in 1981, all coming from Pakistan.

Cotton output was up only 1 percent in 1980 despite an area expansion of 10 percent. The yield decline of 6.3 percent was caused primarily by unfavorable spring weather, which delayed planting and reduced use of fertilizer and agricultural chemicals. About 82 percent of the cotton area is irrigated. Even after the Government's reduction in export premiums and the inflated seed cotton prices, Turkish cotton is able to compete in world markets.

Tobacco production increased 24 percent to 266,000 tons, compared with 214,317 in 1979. A sharp rise in producer prices encouraged a 25-percent increase in area. Simultaneously, tobacco production continued to build up the Tobacco Monopoly stocks to unmanageable levels, but because of the tobacco mix, domestic cigarette production continued to fall short of demand. As a result the Monopoly continued to have filter cigarettes produced in Yugoslavia and Bulgaria.

For the second consecutive year filberts remained Turkey's leading export. After the devaluation of the lira, the price of filberts increased from TL 36.5 per kilogram in 1979 to TL 110 per kilogram in 1980. Filbert production, however, actually declined from 290,000 tons

to 270,000 tons. After the devaluation of the lira, the export subsidy on filberts was dropped.

In 1980, sugar beet prices increased by 110 percent over the previous year. Despite this, area expansion was only 4 percent, not only because fertilizer and fuel prices were higher, but also because the higher sugar prices were announced only after planting had been completed. As a result, sugar beet production was 8.5 million tons, was far below the planned 9.7 million tons, and sugar output was only 900,000 tons, substantially under the 1.2 million tons anticipated. Turkey thus had to import approximately 200,000 tons with a value of about $160 million, compared to $218,000 the previous year. Prior to 1980, the Government heavily subsidized sugar consumption. After the new economic policy was promulgated, four reductions have eliminated the sugar subsidy and caused sugar prices to increase accordingly. After the experience of 1980, the Government for the first time has decided to announce sugar prices before planting in order to encourage production expansion.

Oilseed output for 1980 was estimated at 1.5 million tons, slightly higher than 1979. Expanded sunflower seed output of 630,000 tons was partially a result of expanded area. Cottonseed production remained at 750,000 tons. The total edible oil supply in 1981 should be more than adequate to meet domestic demand. Nevertheless, the Turkish Government will import about 50,000 tons of vegetable oil in order to expand margarine output and in turn increase margarine exports to neighboring countries. Since domestic prices of edible oils are not subject to any control, the Government also intended to use such import practices to prevent abnormal price increases.

Approximately 825,000 tons of 1980's 1 million tons of olives were crushed, producing 165,000 tons of oil. This compares with only 52,000 tons of oil produced in 1979, which was an off-year. Olive oil exports were down to 5,000 tons in 1980 from the 38,000 tons exported in 1979. As a result, the agreement between Turkey and Libya for olive oil exports of 10,000 tons per year could not be fulfilled.

The citrus industry produced 1 million tons of fruit in 1980, including 670,000 tons of oranges, 160,000 tons of lemons, 140,000 tons of tangerines, 18,000 tons of grapefruit, and 12,000 tons of sour oranges. Lemon production decreased significantly because of cold weather during fruit-setting time. Total value of fruit exports increased from $40 million in 1979 to $58.6 million in 1980.

In 1980, milk production was a record 5.4 million tons. This was attributed to significant price increases which encouraged farmers to provide their animals with better feed. Milk prices more than doubled, causing demand for imported dairy cattle to increase despite their high cost. In 1980, the World Bank approved a loan of $50 million for a new dairy project. Approximately 2,900 dairy cattle were imported in 1980, most for the bank projects; by contrast, imports in 1979 were only 1,795 animals.

In 1980, red meat consumption dropped because prices doubled. This in turn reduced the number of animals slaughtered; the trend is expected to continue in 1981. While red meat prices doubled, poultry meat prices increased by 50 percent. This price difference along with more rapid development in the broiler industry than in the beef industry, left poultry meat 30 percent cheaper than red meat in 1980. Because of higher demand for poultry meat, imports of parent stock chicks tripled to 600,000 birds in 1980. Poultry meat production of 80,600 tons in 1980 was 3 percent higher than the previous year. Egg production also rose, reaching 4.5 billion units.

Agricultural Policy

To date Turkey does not have an agricultural production plan; decisions are based on market prices and cost factors. Implementation of a production plan is not feasible since two-thirds of the land is fragmented into very small farm units. Nevertheless, the Government attempts to direct agricultural production through its support price mechanism. However, support prices are generally announced at or after harvest time, thereby affecting only the following year's production decisions. Although most local prices were determined by market forces, the Government did establish the Price Support and Stabilization Fund to control certain commodity prices.

One problem with the method of support prices used by the Government is that increases in these supports are usually much less than the increases in the cost of inputs. The price of basic goods produced by State Economic Enterprises (SEE's) increased between 90 and 861 percent in 1980, while support prices only increased between 49 and 332 percent. (The large price increase in the SEE-produced goods was due mainly to the elimination of nearly all state subsidies for these items.) Because of the low support prices and a tight credit policy which caused state support agencies difficulties in paying producers, the TMO was unable to purchase, and export, the amount of goods it had planned.

In 1980, increases in the support prices for agricultural products did bring about a rise in nominal farm income, but this in turn pressured the Turkish treasury into devaluation of the lira. In addition the agricultural sector, which had largely escaped taxation, has been hit by several new increased taxes, the most important a 5-percent tax on agricultural sales.

Although per capita agricultural production has declined for the past 5 years, Turkey was nearly self-sufficient in 1980. The exceptions were considerable imports of sugar and vegetable oil and lesser imports of tallow and livestock.

A 30-percent reduction in customs duties for Turkish agricultural products imported by the EC countries began in January 1981. This is the first phase in the gradual lifting of all customs duties by 1986 on Turkish agricultural products exported to the EC countries.

Agricultural Trade

Turkey's total exports for 1980 were $2.9 billion, 29 percent over 1979. Agricultural exports increased by 10.7 percent to $1.55 billion. This increase was attributed to the sharp rise in the value of cotton exports to $290 million, up from $232 million in 1979, and a 30-percent increase in the value of tobacco exports to $230 million. Filberts, the leading export for the second consecutive year, were up 5 percent at $370 million. Raisin exports

rose 13 percent to $130 million. Raisin export prices in 1980 averaged $1,638 per ton f.o.b., down from the record $1,775 per ton the previous year. The EC countries continue to be Turkey's main raisin customers, with the Netherlands, the U.K., Italy, and West Germany taking 76 percent of the total. Because of the devaluation of the lira and relatively high world prices, 100,000 tons of lentils, 75,000 tons of chickpeas, and 5,000 tons of white dry beans were exported in 1980.

Total fig exports (figs, fig paste, and industrial figs) were 45,000 tons with a value of $50 million, about 20 percent higher than in the previous year.

In 1979 agricultural exports accounted for 62 percent of total exports; in 1980, the share dropped to 55 percent. This drop was largely due to an increase in the industrial exports.

Turkey's total imports for 1980 climbed to $7.1 billion, 40 percent above 1979. Agricultural imports, estimated at $270 million, increased by 125 percent. Vegetable oil imports jumped 50 percent to $105 million. The most dramatic change occurred in sugar imports, which were estimated at $160 million, approximately 200,000 tons.

Outlook

The current year should see a substantial rise in GNP growth, a slowing of inflation, and some reduction in the current account deficit. The production outlook for 1981 is good, although production of wheat and other grains is expected to decline slightly. Despite an anticipated wheat crop of 13.5 million tons, Turkey expects to export only 700,000 tons in 1981. Turkey continues to carry very large wheat stocks, but because of pricing policies and high domestic prices exports have been limited. While edible oil supplies should be adequate to meet domestic demand, the Government has already decided to let farm sales cooperatives import crude soybean oil or sunflowerseed oil in order to prevent prices from rising in the free market because of the accumulation of regulatory stocks. The amount of oil imported should be around 50,000 tons. Turkey has also purchased 3,500 tons of soybean seed from the U.S., with the hope of expanding soybean production. The present Government is determined to restrict tobacco production and is therefore enforcing the provision of the Tobacco and Monopoly Laws. The Government's anti-inflationary policies are bearing some fruit, with sharp declines in the CPI early in 1981. The Government's decision to free prices of almost all items and stop subsidization of basic goods and services produced by the State Enterprises will continue to force consumers to spend more sparingly. Increases in the cost of living and cost of production inputs will lead farmers to demand higher support prices. (Jerome Iverson and Michael E. Kurtzig)

United Arab Emirates

The Economy

The transit trade in food, household appliances, and many consumer goods between ports of the UAE and Iran reached record levels in 1980. Efforts by Iranian officials to curb private imports through the busy port of Dubai apparently diminished as shortages became more acute. Total imports by the UAE increased about 40 percent to nearly $10 billion. An estimated one-fourth of these imports were eventually distributed to customers in other countries, particularly Iran. Dubai built an expensive and elaborate port in the mid-1970's with the help of large petroleum revenues flowing into the country. The port was once too large for the small market it served. The combination of excess port capacity and an efficient banking system has catapulted Dubai into the role of a major trade center for customers outside the borders of the UAE. Oman was a leading receiver of goods from Dubai in the early 1970's before its ports were developed.

The GNP increased to about $27 billion. About $1 billion of Abu Dhabi's petroleum wealth went to the six other emirates for development. The Abu Dhabi Fund for Economic Development now lends about $1 billion annually to developing countries for agriculture, energy, and transportation. A large project has been underway for several years to allow large exports of natural gas from Abu Dhabi emirate. Abu Dhabi is a large supplier of petroleum to Japan, India, and some countries in Africa. Total exports by the UAE (excluding most re-exports which went on small boats to Iran after purchases were made in Dubai) increased 48 percent in 1980 to $20.2 billion. Most of the increase came from shipments of more expensive petroleum from Abu Dhabi, but petroleum exports from Dubai and Sharjah also increased.

Agricultural Production

Vegetable production expanded by 15 percent (to 225,000 tons), and retail prices for tomatoes, cucumbers, and melons declined in 1980. This has been the objective of the many subsidies given to farmers, and at last the consumers reaped considerable benefits from the booming local vegetable industry.

The Government gives subsidies for greenhouse construction, in addition to free fertilizer and seed. The experiment station at Diggada had developed relatively inexpensive greenhouses and tested many varieties of tomatoes, cucumbers, and winter vegetables for use in greenhouses. The economic boom generated by rising petroleum revenues in the mid-1970's created a strong demand for vegetables and for a while it appeared that local farmers would never be able to meet needs. The use of innovative irrigation on large parcels of land in Ras al Khaimah has brought about vegetable output that virtually equals demand for about half of the year.

The use of government loans to build new poultry enterprises and dairies contributed to a substantial increase in the local output of meat and milk. Government subsidies pay for 50 percent of the cost of animal feed and 100 percent of cost of trips to other countries to buy breeding chicks and necessary equipment. Output of poultry meat surpassed 15,000 tons in 1980, with about 90 percent coming from agri-business firms using the latest technology for large scale operations. The same firms produced over 8,000 tons of eggs last year. New dairies near Dubai, Abu Dhabi, and in Ras al Khaimah

have increased local output of milk, mostly for use in blending with imported dry or evaporated milk.

Some of the traditional crops (such as dates and tobacco) in the major farming areas of Ras al Khaimah and Fujarah have recently received additional investments after years of relatively little attention. The output of dates increased to about 34,000 tons in 1980, mostly with greater use of fertilizer for the commercial orchards of Ras al Khaimah and the Al Ain area of Abu Dhabi emirate. Production of tobacco in Ras al Khaimah increased to about 3,000 tons. New lime and orange orchards have been planted in Fujarah, where export of dried limes was a major activity for decades. Rainfall in the Harrar Mountains can reach 20 inches in some years. A new business has evolved bottling water from the mountain streams to prepare bottled drinking water for local stores and for export.

Agricultural Policy

Agricultural development in Ras al Khaimah and Fujarah became significant in the last 2 years as more farmers were encouraged by an array of attractive subsidies and were also attracted to new open air markets where high prices were paid for fresh produce. The unusually high level of subsidies provided for farmers and agri-business firms has changed the social status for those in agriculture.

Excellent opportunities for selling feed, seed, nursery products, and farm equipment exist for American firms in the UAE, where subsidies now provide partial or total payments for most of these items.

The UAE imported over 92 percent of its food supply in the late 1970's, but the share may fall below 90 percent in 1981 because of the boom in local food output. A considerable part of the increased output is based upon feed imports, since in the entire country only several thousand tons of grain are produced annually.

Agricultural Trade

Petroleum accounted for over 99 percent of the exports of indigenous products from the UAE in recent years. Total exports of $20.2 billion in 1980 were more than double the 1978 level, primarily because of 1979 petroleum price increases. Agricultural imports increased over 40 percent during 1980 to about $1.4 billion—accounting for about 14 percent of UAE's imports of all items. The brisk business done by many modern grocery stores and food marketing chains contributed to larger imports of almost every item usually sold by grocers. Despite the opening of elaborate new feed mills and additional grain storage facilities in Abu Dhabi, Dubai continued to account for over 60 percent of the food imports entering the country. When the large flour mill opened in Abu Dhabi in 1977, Australian shipments of wheat to the UAE reached a peak of 261,000 tons. Large stocks were established then and Australian wheat shipments to the UAE during 1978-80 averaged slightly less than 100,000 tons annually. Total UAE use of wheat and imported flour rose by 20,000 tons in 1980 to about 180,000 tons, and stocks declined. As a result, imports of wheat and flour in 1980 rose to 125,000 tons, with over 80 percent of the supply coming from Australia.

Total imports of rice into Dubai increased from 247,000 tons in 1979 to possibly 300,000 tons in 1980, when total imports of rice by all seven emirates rose to about 375,000 tons. Pakistan was the leading supplier in 1979, followed by Thailand, the United States, and China. U.S. rice exports to the UAE soared from 53,000 tons in 1979 to 152,000 tons in 1980 and the value bounced from $22 million to $70 million. This accounted for a major part of the growth in total U.S. agricultural exports to the UAE from $44 million to $114 million between 1979 and 1980.

U.S. exports of eggs to the UAE reached $4.6 million in 1980. Striking gains also occurred in sales of apples, oranges, pulses, pears, almonds, grapes, and vegetable seed. U.S. exports of vegetable oils to the UAE reached $6 million in 1980—six times the 1979 level. The United States has not yet significantly shared in the UAE boom in imports of tomato products, fruit juices, dairy products, beef, mutton, and live animals. Greece, Bulgaria, and Italy have provided most of the rising imports of tomato paste and canned tomatoes. The EC, Australia, and New Zealand have accounted for most of the growth in imports of milk, butter, and cheese. Australia and New Zealand have delivered more beef and mutton to the UAE in recent years. Total meat imports in 1980 were estimated at 75,000 tons, including 30,000 tons of frozen poultry, 20,000 tons of beef, 17,000 tons of mutton, and about 8,000 tons of canned meat. Less than 1,000 tons of all meat imports came from the United States in 1980. However, the UAE has been a significant market for U.S. potato and corn chips, popcorn, canned vegetables, and honey.

Outlook

Shipments of U.S. rice to the UAE slowed in early 1981, apparently because supplies of certain grades of high-quality rice were nearly depleted. A new surge in U.S. rice to UAE is expected late in 1981, as the U.S. harvest is marketed. Direct rice purchases by Iran from major world suppliers might reduce the importance of the Dubai connection. Total UAE rice imports may remain near the 1980 level of 375,000 tons, but much larger imports of wheat and feed grains are expected. Total grain imports by the UAE in 1981 should exceed 600,000 tons.

Petroleum revenues could rise to $25 billion in 1981 if the prices stay the same, and total imports of all items could rise to about $13 billion, up from $10 billion in 1980. (John B. Parker)

Yemen Arab Republic

The Economy

The Yemen Arab Republic enjoyed fairly rapid economic growth until mid-1979. For the past 10 years YAR's chief export has been cheap Arabic-speaking labor for neighboring Arab countries. Since 1979, inflation has eroded the value of remittances, though. By the end of 1979, the balance of payments was in deficit for the first

time in 5 years, and Yemen was forced to draw heavily on its foreign exchange reserves to balance out its imports in 1980.

In the past, inflation was fed by high foreign remittances, but now they have been replaced by a new source of inflation—a rapidly growing budgetary deficit with ever-increasing deficit financing. While the budget has been growing, foreign budget support has actually declined, necessitating a draw-down in reserves. Economic development has been favored principally by foreign assistance, which has been advanced as budget support, capital loans, and technical assistance as well as grants.

At a lower level of operations, there has been significant small-scale development through local development associations (LDA's). Villages have organized LDA's in most of the country's rural areas to construct roads, schools, clinics, potable water systems, and other projects as needed. Since the early 1960's the steady flow of remittances to rural Yemen has supplied the resources necessary for LDA's. This unique development effort has been significant, and has enjoyed strong encouragement from the central Government.

Because of the exodus of laborers out of the YAR, there is a labor shortage in the country, predominantly in the rural areas, because the workers believe they can earn more abroad. Some of these workers are replaced by expatriate workers from elsewhere, but the expatriates, at best, can only partially fill the labor gap.

Agricultural Production

Despite good weather, the output for some crops did not rise in 1980 because less area was planted. Other crop yields were down because there was not enough farm labor to properly cultivate the crops. The 1980 wheat and barley harvests were estimated near 50,000 tons each, corn at 80,000 tons, and sorghum and millet at about 840,000 tons—all down from the harvests of the mid-1970's.

Although some population has shifted to the urban areas and to other countries, agriculture remains the largest sector of the economy. Farming contributes 40 percent of the GDP, while some 90 percent of the people live in rural areas and 73 percent of the work force are engaged in farming.

Little has been done to check the noticeable drop in farm output. There are a number of reasons for the decline. The returns from other sectors are higher, causing peasants to abandon farming for more profitable work. Also, since more than 80 percent of the farmland depends on notoriously irregular rainfall, farming is a precarious livelihood. Furthermore, local means of marketing and storage are inadequate.

In the coffee areas, the trend has been away from coffee to qat, which grows at the same altitude, and is a more valuable cash crop. In many areas qat has completely replaced coffee. (The leaves of qat, a mildly narcotic herb, are chewed, and qat parties are as institutionalized in Yemen as cocktail parties in the Western world). Not only coffee, but other traditional crops such as cotton, cereals, and tobacco also show a decline. Even in 1980, when the weather was good, Yemen moved further away from self-sufficiency. On the plus side, some new land is coming into production. Land in the Tihama, which was formerly too dry for crops, is now being farmed using newly drilled wells, which have quadrupled during the last decade.

Agricultural Policy

Yemen's law encourages foreign investment in joint ventures as a part of its scheme for economic growth. It gives the private sector a free hand, at least as long as the ventures aid development. Development has been guided by the 5-year plan (1976 to 1981), which will probably be continued by a second 5-year plan. The new plan is said to include additional infrastructural development with special emphasis on resources for repair and maintenance and special attention to rural areas to help increase total agricultural output.

This focus on agriculture will bolster the LDAs' work and it is hoped, discourage some of the migration to the cities. Rural conditions can be improved through stronger central government support for agricultural cooperatives and marketing unions and through the Confederation of Yemen's Development Associations, whose secretary-general has the rank of assistant prime minister.

Agricultural Trade

Yemen's trade picture is completely skewed. Estimated exports in 1979 were about $8 million, largely cotton, coffee, and hides and skins, while total imports have been estimated at some $1.7 billion. U.S. agricultural imports from Yemen were $208 million in 1979 and $218 million in 1980, and our agricultural exports to Yemen were $7.3 million in 1979, and $8.2 million in 1980. The largest U.S. farm exports were rice, popcorn, prepared feeds, and wheat flour. Smaller exports included eggs, prepared foods, seeds, and vegetable oil. United States imports from Yemen were mostly coffee and skins.

Outlook

Prominent Yemen individuals and Government leaders are concerned with an increasing trade deficit, much of which is caused by food imports. There is also now a slackening of remittances from Yemen workers abroad. Officials are realizing that greater emphasis will have to be placed on agricultural development if the level of food self-sufficiency is to be raised. The agricultural sector has potential, and it has produced much better in the past. One area in particular deserves more attention—the Red Sea coastal plain called the Tihama. This plain has fertile soil, a tropical climate, and, if managed correctly, sufficent water in many locations. Because of the Government's pragmatic support to free enterprise, development appears to hinge on the initiative of the private sector. It appears there are opportunities for local investors to combine funds with foreign capital and its sources of technology, expertise, and management skills. In addition to Yemen's being an investment possibility for American agri-business, its inflow of foreign remittances provides funds for more agricultural inputs.

Regardless of how successful development is, it still will be several years before the YAR can reach even the

level of food self-sufficiency it enjoyed 10 years ago. (H. Charles Treakle)

People's Democratic Republic of Yemen

The People's Democratic Republic of Yemen was seriously hurt by a prolonged drought in the spring of 1980. The governorates of Abyan and Shabwa were so affected that some 70,000 people were reported to need food assistance. The drought followed a severe dry spell in 1979 that had affected most of the country and reduced the cereal crop an estimated 58 percent below the 1978 harvest.

While large areas were suffering from excessively dry weather in 1980, in other areas farmers lost all their crops to flooding. The combination of too little and too much water made outside assistance necessary to meet emergency food needs. Because 80 percent of the crops are flood irrigated, production is especially sensitive to drought. The 10 percent of crops that are pump irrigated fare better, but there are limits to expansion of pump irrigation.

In its best crop years the agricultural sector is unable to meet all the basic food needs, but it does provide a considerable portion and all the fresh vegetables and fruit. In addition, the agricultural sector supplies the local textile mill and tomato paste and cottonseed processing plants. Cotton is the country's main cash crop. Cereals, vegetables, dates and other fruits, coffee, and qat are also important. The country's livestock are estimated at some 21,000 cattle and camels, 790,000 sheep, 1 million goats, and 160,000 asses. Poultry raising is now on the increase and a recent report estimated that besides dooryard poultry, the country had about 75,000 layers and 13,000 broilers on poultry farms, producing an estimated 14 million eggs and 200 tons of meat annually.

Late in 1980, the Government adopted a new 5-year economic development plan stressing revitalization of industry, especially the refining of oil and development of infrastructure including power generation and water supplies. The plan also stresses agricultural expansion to meet the needs of South Yemen's 1.7 million people. Special emphasis is given to grains, vegetables, and fruit. The production target is an overall increase of more than 50 percent by 1985. The capital investment of this new plan was projected at 425.6 million dinars ($1.277 billion), an increase of 1.8 percent over the previous plan.

The value of South Yemen's imports is regularly 90 percent greater than its exports. In 1978, imports totaled $387 million, and lacking figures, it is estimated that imports rose in 1979, because of the drought related food needs. Much of the food imports are used to supply the port city of Aden.

In 1978, South Yemen exported $45.7 million, including re-exports, but excluding petroleum products. The greater portion of these exports was agricultural, including cotton, hides, skins, coffee, and salted fish.

The country's major trading partners include the Yemen Arab Republic, East African countries, Persian Gulf countries, the U.K., Japan, and Communist Bloc countries. The United States has had a fairly balanced agricultural trade with the People's Democratic Republic of Yemen, and in 1980, agricultural exports and imports were under $1 million each. (H. Charles Treakle)

Table 10. The United States: agricultural exports to the Middle East and North Africa by quantity for selected items, annual 1979 and 1980

	Wheat and Flour		Rice		Corn		Poultry meat	
	1979	1980	1979	1980	1979	1980	1979	1980
	Metric tons							
Saudi Arabia	481,711	266,823	185,390	224,360	4,765	20,575	3,826	17,113
Iraq	312,471	312,209	205,465	268,816	---	---	---	25,459
UAE	4,750	2,986	53,452	152,361	---	---	435	377
Kuwait	---	21,081	5,004	13,707	109	17,036	1,858	2,669
Algeria	401,704	254,996	---	1,016	109,932	139,043	---	149
Libya	---	16,084	2,600	3,514	---	---	---	---
Qatar	---	---	---	---	---	---	134	164
Subtotal	1,200,636	874,179	441,860	562,774	114,806	176,654	6,253	45,931
Iran	610,858	49,999	285,541	---	467,852	8	12	---
Mideast OPEC	1,811,272	924,178	727,401	394,958	582,658	176,662	6,265	45,931
Egypt	1,918,070	1,683,732	1,151	---	465,902	984,188	16,099	47,946
Morocco	293,173	533,257	2,895	49	119,054	136,496	---	---
Tunisia	223,633	289,610	193	66	141,293	232,288	2	---
Sudan	300,250	317,926	28	---	---	---	---	---
Lebanon	122,843	163,884	---	---	---	---	---	---
Syria	43,580	6,750	15,772	---	78,487	98,080	---	4
Jordan	91,392	79,522	1,569	31,895	41,320	88,368	---	2,553
Bahrain	108	32	253	340	---	---	296	344
Oman	---	5,250	347	70	---	5,969	16	42
PDR Yemen	---	---	---	---	---	---	---	---
Yemen Arab Rep.	1,902	1,821	15,742	13,151	---	---	---	---
Subtotal	2,994,951	3,081,784	37,950	45,571	846,056	1,545,389	16,413	50,889
Israel	552,888	399,943	4,431	6,290	256,584	645,177	1,634	81
Turkey	---	---	---	20	---	---	---	---
Cyprus	22,385	17,120	978	143	---	---	---	---
Total Mideast and North Africa	5,381,495	4,423,025	980,760	715,798	1,685,298	2,367,228	24,312	96,901

Source: Bureau of the Census, December 1980.

Table 11. The United States: agricultural exports to the Mideast and North Africa by value for selected items, annual 1979 and 1980

Destination	Total agriculture		Wheat and flour		Rice		Corn		Poultry meat	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
	1,000 dollars									
Saudi Arabia	325,506	375,411	87,479	59,783	95,727	127,841	495	2,639	6,109	21,263
Iraq	146,008	255,318	50,805	61,844	85,731	123,719	---	---	---	31,797
UAE	43,771	113,678	1,048	913	21,993	70,384	---	---	908	783
Kuwait	22,748	47,269	---	4,209	2,451	6,560	12	2,636	2,566	3,453
Algeria	125,518	175,620	66,237	52,517	---	560	14,239	17,467	---	132
Libya	18,378	14,580	---	2,903	1,894	3,070	---	---	---	---
Qatar	2,990	5,399	24	48	237	2,474	---	---	15	110
Subtotal	684,919	987,275	205,593	182,217	208,033	334,608	14,746	22,742	9,598	57,538
Iran	415,099	8,226	87,638	8,168	116,738	---	54,876	---	15	---
Mideast OPEC	1,100,018	955,501	293,231	190,385	324,771	334,608	69,622	22,742	9,613	57,538
Egypt	600,589	770,205	297,020	295,862	515	---	56,827	130,976	16,527	47,844
Morocco	93,513	133,498	49,875	90,655	921	21	13,854	17,688	---	---
Tunisia	62,822	100,883	39,471	57,851	63	31	16,669	29,253	3	---
Sudan	51,711	65,748	50,134	57,835	12	---	---	---	---	---
Lebanon	69,970	91,577	19,287	30,525	344	486	11,187	29,061	---	---
Syria	45,843	25,686	7,453	1,255	5,827	---	8,768	12,734	---	4
Jordan	31,611	70,999	15,275	16,080	743	14,253	4,667	12,110	---	2,853
Bahrain	5,340	7,484	44	11	169	248	---	---	443	689
Oman	2,055	4,453	---	973	155	54	---	733	28	76
PDR Yemen	546	884	---	77	---	173	---	---	---	---
Yemen Arab Rep.	7,273	8,206	426	466	6,547	6,422	---	---	---	---
Subtotal	971,273	1,279,623	478,985	551,590	15,296	21,688	111,972	232,555	17,001	51,466
Israel	313,490	297,535	87,394	71,275	1,363	2,464	29,566	81,920	2,732	67
Turkey	910	17,269	---	15	30	92	---	---	---	---
Cyprus	13,044	28,458	3,628	3,327	388	107	1,189	5,363	---	---
Total Mideast and: North Africa	2,398,735	2,618,386	863,238	816,592	341,848	358,959	212,349	342,580	29,346	109,071

Source: Bureau of the Census, December 1980.

Table 12. Middle East and North Africa: agricultural imports, by value, annual 1973-80

	1973	1974	1975	1976	1977	1978	1979*	1980*
	Million Dollars							
Egypt	373.0	1,206.8	1,452.3	1,380.0	1,543.1	2,014.2	2,600.0	3,400.0
Libya	321.4	474.8	609.2	473.8	724.9	721.7	835.6	960.0
Sudan	116.7	158.2	179.4	148.9	120.9	197.2	230.0	280.0
Lebanon	253.0	329.9	387.1	329.6	426.3	423.9	530.0	620.0
Syria	167.4	352.0	364.6	350.1	332.6	403.4	450.0	500.0
Jordan	107.5	151.9	177.7	284.9	276.8	314.8	350.0	430.0
Iraq	223.5	704.0	776.6	617.0	774.7	1,039.0	1,349.8	1,985.0
Saudi Arabia	398.7	561.8	701.6	1,066.3	1,500.8	2,251.1	3,003.0	4,400.0
Kuwait	208.6	276.1	428.9	478.9	575.5	630.8	734.7	1,012.0
Bahrain	60.0	75.4	79.4	123.1	160.0	156.3	180.0	250.0
PRD Yemen (Aden)	53.5	82.0	70.9	80.0	118.6	161.0	200.0	230.0
Yemen Arab Rep.	63.4	94.9	158.1	186.4	191.6	345.7	400.0	500.0
Oman	31.5	50.7	64.0	68.7	91.4	103.0	125.0	180.0
UAE	99.0	197.4	305.0	440.0	520.0	685.0	930.0	1,180.0
Qatar	37.3	60.9	57.1	83.9	86.2	95.7	103.2	133.0
Mideast Arab	2,463.6	4,776.8	5,811.9	6,111.6	7,444.5	9,542.8	12,021.3	15,688.0
Iran	433.3	1,270.7	2,011.0	1,478.1	1,862.2	2,201.0	2,128.2	2,500.0
Israel	420.1	593.7	670.2	609.8	659.5	652.9	700.0	750.0
Turkey	81.0	416.3	399.8	192.5	151.4	109.8	120.0	190.0
Cyprus	104.8	83.0	97.1	114.3	125.5	137.3	150.0	180.0
Total Mideast	3,503.7	7,140.5	8,747.6	8,506.3	10,253.5	12,907.8	15,119.5	19,308.0
Algeria	448.6	822.9	1,329.3	974.4	1,268.6	1,416.0	1,563.8	3,100.0
Morocco	337.3	574.5	799.6	567.8	581.1	643.2	700.0	850.0
Tunisia	147.0	249.7	281.6	227.4	271.9	304.9	300.0	400.0
North Africa	932.9	1,647.1	2,410.5	1,769.6	2,121.6	2,364.1	2,516.0	4,350.0
Total N. Africa & Mideast	4,436.3	8,787.6	11,400.5	10,276.0	14,448.5	15,271.9	17,635.5	23,658.0

*Preliminary
Sources: 1979 FAO Trade Yearbook and matrix tables for shipments by trading partners.

Table 13. Middle East and Africa: indices of food production, total and per capita, by country, 1976-80

Region and country	Total 1976	Total 1977	Total 1978	Total 1979	Total 1980	Per capita 1976	Per capita 1977	Per capita 1978	Per capita 1979	Per capita 1980
	(1969-71 = 100)									
Middle East										
Cyprus	104	95	92	95	98	99	90	88	91	93
Iran	158	155	165	153	140	134	128	133	119	106
Iraq	124	125	137	143	157	100	98	103	105	111
Israel	139	142	143	139	144	116	116	114	108	110
Jordan	96	82	109	65	126	79	64	83	48	91
Lebanon	80	100	120	118	126	68	83	98	94	97
Saudi Arabia	173	160	161	189	206	144	129	126	144	152
Syria	214	161	196	166	236	176	128	151	124	170
Turkey	126	127	132	132	136	109	107	108	105	106
Total Middle East	137	136	143	141	144	116	112	115	110	110
Africa										
Algeria	113	103	100	113	111	93	82	77	84	80
Angola	92	86	78	78	81	83	76	68	66	67
Benin	111	115	130	128	132	94	95	103	99	100
Burundi	105	109	110	111	113	92	93	91	90	88
Cameroon	106	109	112	116	117	93	94	94	95	94
Egypt	117	116	120	124	126	102	99	100	100	99
Ethiopia	73	69	63	68	64	62	57	51	53	49
Ghana	91	89	89	93	93	77	73	71	73	70
Guinea	108	104	107	109	104	90	85	85	84	78
Ivory Coast	147	148	158	170	179	118	115	119	124	127
Kenya	145	156	156	153	164	119	124	120	113	117
Liberia	133	139	137	143	141	110	112	107	108	103
Libya	203	191	196	188	203	158	142	140	129	135
Madagascar	110	106	101	109	115	95	89	83	87	89
Malawi	112	117	125	123	115	93	94	97	93	84
Mali	122	113	125	103	104	104	94	101	82	80
Morocco	113	93	109	109	112	94	76	86	83	84
Mozambique	79	80	81	80	79	69	68	67	65	63
Niger	112	116	121	125	136	95	96	97	98	103
Nigeria	110	110	112	113	115	91	88	87	85	84
Rwanda	129	130	130	138	139	108	106	102	106	104
Senegal	123	90	120	83	82	103	74	96	64	62
Sierre Leone	114	120	115	118	121	98	101	94	94	94
South Africa	116	124	127	124	128	99	104	103	99	99
Sudan	104	115	124	105	110	87	93	97	80	81
Tanzania	138	139	146	143	141	115	113	115	109	105
Togo	88	84	98	105	103	75	70	79	82	79
Tunisia	154	156	161	163	174	134	133	134	132	137
Uganda	102	103	111	109	107	84	81	86	81	77
Upper Volta	110	104	109	104	104	96	89	91	85	83
Zaire	115	117	109	114	115	97	96	87	87	85
Zambia	148	170	156	115	112	122	136	121	86	81
Zimbabwe	118	118	115	94	101	96	93	87	69	72
Total Africa	111	110	113	113	115	94	90	90	88	87

Source: Economics and Statistics Service,
Indices of Agricultural Production for Africa and the Near East.

Table 14. Middle East and Africa: indices of agricultural production, total and per capita, by country, 1976-80

Region and country	Total 1976	Total 1977	Total 1978	Total 1979	Total 1980	Per capita 1976	Per capita 1977	Per capita 1978	Per capita 1979	Per capita 1980
	(1969-71 = 100)									
Middle East										
Cyprus	104	95	92	95	98	99	91	88	91	93
Iran	154	152	161	149	136	131	126	130	116	103
Iraq	123	125	136	142	156	99	97	103	104	110
Israel	139	144	147	143	148	117	118	118	111	113
Jordan	96	82	109	65	126	79	64	83	48	91
Lebanon	85	96	114	112	119	73	80	92	88	92
Saudi Arabia	173	160	161	189	206	144	129	126	144	152
Syria	180	143	166	141	187	148	114	128	105	135
Turkey	127	128	131	130	135	109	108	108	104	105
Total Middle East	136	135	141	138	142	116	112	113	108	108
Africa										
Algeria	113	103	101	114	112	93	82	78	85	81
Angola	68	66	54	52	55	61	58	47	44	45
Benin	109	112	126	124	129	92	92	100	97	98
Burundi	105	108	110	112	112	92	92	91	90	88
Cameroon	107	110	114	119	119	94	95	96	98	96
Egypt	109	109	113	118	122	95	92	94	96	96
Ethiopia	78	75	69	74	70	66	62	56	58	54
Ghana	91	89	89	93	93	77	73	71	73	70
Guinea	106	103	106	107	102	88	84	83	82	77
Ivory Coast	138	124	146	151	159	111	97	110	110	113
Kenya	143	164	161	159	168	117	130	124	117	120
Liberia	128	129	127	131	131	106	104	99	98	96
Libya	199	187	192	186	200	155	140	138	128	133
Madagascar	112	111	101	116	116	97	94	83	92	90
Malawi	122	133	139	144	134	102	107	108	108	98
Mali	132	122	135	115	116	113	102	110	91	89
Morocco	113	94	109	109	113	94	76	86	84	84
Mozambique	76	78	79	78	77	66	66	66	63	61
Niger	111	115	120	124	135	94	95	96	97	103
Nigeria	110	109	112	113	115	91	88	87	85	83
Rwanda	129	130	130	138	139	108	106	102	106	104
Senegal	124	91	121	84	83	105	75	97	65	63
Sierre Leone	115	119	117	119	121	99	100	96	95	94
South Africa	113	122	125	123	126	96	102	102	98	97
Sudan	89	101	113	91	96	74	82	89	70	71
Tanzania	125	125	130	128	128	105	101	102	98	95
Togo	88	82	97	104	103	75	68	78	82	79
Tunisia	153	156	161	163	173	133	132	133	132	137
Uganda	89	92	92	88	89	73	72	71	65	64
Upper Volta	111	106	109	104	104	97	90	91	85	83
Zaire	114	116	108	112	114	96	95	86	86	84
Zambia	143	163	148	115	114	118	130	115	86	82
Zimbabwe	128	123	122	113	122	104	96	93	83	87
Total Africa	109	108	111	112	114	92	88	89	87	86

Source: Economics and Statistics Service, Indices of Agricultural Production for Africa and the Near East.

TABLE 15--AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-81

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
ALGERIA															
AVERAGE:															
1969-71	1,359	6	--	4	--	253	498	--	--	--	--	5	--	--	--
1973-75	1,362	5	--	2	--	423	508	--	--	--	--	3	--	--	--
1976	1,630	3	--	2	--	493	516	--	--	--	--	2	--	--	--
1977	1,046	2	--	1	--	472	498	--	--	--	--	2	--	--	--
1978	1,003	1	--	1	--	473	445	--	--	--	--	3	--	--	--
1979	1,450	1	--	1	--	501	449	--	--	--	--	3	--	--	--
1980	1,400	1	--	1	--	500	443	--	--	--	--	3	--	--	--
ANGOLA															
AVERAGE:															
1969-71	16	467	66	38	1,597	182	81	225	--	26	48	4	200	--	28
1973-75	12	493	78	22	1,673	159	70	230	--	22	46	6	154	--	25
1976	13	450	80	25	1,740	135	40	200	--	20	20	3	68	--	10
1977	10	350	50	25	1,760	135	40	200	--	25	20	3	74	--	10
1978	10	300	50	20	1,700	115	35	190	--	20	10	3	37	--	5
1979	10	300	50	20	1,800	115	35	200	--	20	10	3	22	--	5
1980	10	300	50	20	1,800	130	40	200	--	25	30	3	21	--	10
BENIN															
AVERAGE:															
1969-71	--	201	57	4	533	573	--	--	--	50	24	1	1	--	12
1973-75	--	228	85	9	533	506	--	--	--	40	21	1	1	--	11
1976	--	182	76	18	624	629	--	--	--	61	14	1	1	--	8
1977	--	242	81	15	625	594	--	--	--	67	11	1	1	--	6
1978	--	343	65	9	721	693	--	--	--	64	12	1	1	--	7
1979	--	300	61	9	741	682	--	--	--	70	16	1	1	--	8
1980	--	310	65	10	750	702	--	--	--	70	16	1	1	--	8
BURUNDI															
AVERAGE:															
1969-71	7	222	92	8	843	895	--	1,400	--	17	6	--	20	--	3
1973-75	10	220	158	6	883	897	--	1,358	--	24	3	--	22	--	1
1976	4	250	149	7	896	922	--	1,450	--	24	3	--	22	--	1
1977	5	255	130	9	930	960	--	1,475	--	27	3	--	17	--	2
1978	5	248	140	8	936	992	--	1,490	--	27	4	--	23	--	2
1979	5	235	140	9	942	1,023	--	1,500	--	27	4	--	28	--	2
1980	6	250	145	10	950	1,035	--	1,500	--	28	4	--	20	--	2

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TABLE 15 --AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
CAMEROON															
AVERAGE:															
1969-71	--	312	340	15	890	995	--	1,083	7	196	39	5	72	115	17
1973-75	--	342	352	16	970	1,075	--	1,114	18	80	30	6	91	108	15
1976	--	465	390	19	1,010	1,115	--	1,100	32	90	38	6	78	84	18
1977	--	477	345	23	1,030	1,135	--	1,060	36	90	41	6	82	108	15
1978	--	470	390	24	1,050	1,155	--	1,060	45	90	59	6	89	107	22
1979	--	480	390	30	1,050	1,175	--	1,060	48	90	70	6	96	122	25
1980	--	490	400	30	1,100	1,190	--	1,065	51	90	29	6	90	120	28
EGYPT															
AVERAGE:															
1969-71	1,509	2,369	847	2,614	--	582	787	89	--	38	897	--	--	--	520
1973-75	1,952	2,644	817	2,313	--	812	971	108	--	27	774	--	--	--	439
1976	1,960	3,047	800	2,300	--	962	897	112	--	28	677	--	--	--	396
1977	1,697	2,724	648	2,272	--	1,078	793	127	--	30	690	--	--	--	399
1978	1,933	3,117	656	2,351	--	835	986	113	--	33	736	--	--	--	438
1979	1,856	2,938	635	2,510	--	1,123	1,214	113	--	33	792	--	--	--	484
1980	1,796	3,230	643	2,384	--	1,230	1,257	120	--	34	870	--	--	--	530
ETHIOPIA															
AVERAGE:															
1969-71	841	940	1,326	--	--	214	--	50	110	22	32	--	86	--	16
1973-75	593	1,048	906	--	--	210	--	55	149	22	46	--	106	--	23
1976	507	1,015	1,002	--	--	240	--	67	136	25	48	--	179	--	24
1977	592	999	883	--	--	232	--	66	150	26	30	--	200	--	15
1978	423	750	888	--	--	215	--	66	165	20	30	--	197	--	15
1979	390	1,000	940	--	--	225	--	60	170	20	40	--	197	--	20
1980	390	975	905	--	--	232	--	60	170	22	40	--	185	--	20
GHANA															
AVERAGE:															
1969-71	--	377	216	71	1,600	2,368	107	2,399	--	59	--	1	5	423	--
1973-75	--	422	288	73	1,677	2,196	145	2,066	--	90	2	3	3	375	1
1976	--	286	333	70	1,819	1,952	145	1,840	--	91	3	2	4	324	1
1977	--	309	273	51	1,800	1,935	140	1,840	--	145	2	1	2	271	1
1978	--	340	257	50	1,850	1,951	150	1,970	--	105	2	1	1	265	1
1979	--	380	166	44	1,900	2,110	155	1,965	--	150	2	1	2	296	1
1980	--	400	210	50	1,900	2,126	155	1,970	--	150	1	1	2	270	1

CONTINUED

TABLE 15 --AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
GUINEA															
AVERAGE:															
1969-71....	--	165	72	364	482	92	--	84	--	25	--	--	9	--	--
1973-75....	--	178	78	335	528	101	--	95	--	27	--	--	6	--	--
1976........	--	188	80	400	540	120	--	99	--	30	--	--	5	--	--
1977........	--	170	75	362	540	120	--	101	--	31	--	--	6	--	--
1978........	--	190	80	366	550	125	--	103	--	32	--	--	5	--	--
1979........	--	190	75	390	545	120	--	102	--	30	--	--	5	--	--
1980........	--	180	70	351	545	120	--	102	--	30	--	--	5	--	--
IVORY COAST															
AVERAGE:															
1969-71....	--	257	45	335	546	1,746	--	832	--	39	24	3	261	193	14
1973-75....	--	245	56	405	799	2,085	--	1,056	9	46	44	3	261	227	24
1976........	--	247	72	426	1,200	2,258	--	1,265	32	49	50	2	292	232	25
1977........	--	258	73	477	977	2,130	--	1,221	31	49	45	2	146	303	30
1978........	--	264	77	504	1,056	2,231	--	1,320	32	50	62	2	277	318	41
1979........	--	275	79	534	1,112	2,315	--	1,346	52	52	68	2	245	370	46
1980........	--	284	79	550	1,150	2,412	--	1,300	103	59	82	2	250	385	54
KENYA															
AVERAGE:															
1969-71....	223	1,400	342	28	--	203	--	--	128	10	11	--	58	--	5
1973-75....	152	1,700	352	34	--	320	--	--	173	2	10	--	69	--	5
1976........	176	2,195	351	40	--	342	--	--	161	6	10	--	75	--	5
1977........	180	2,205	350	43	--	341	--	--	194	8	11	--	101	--	5
1978........	144	1,895	351	37	--	361	--	--	255	8	18	--	85	--	9
1979........	155	1,350	296	39	--	360	--	--	317	8	22	--	74	--	11
1980........	165	1,700	300	37	--	360	--	--	432	8	24	--	88	--	12
LIBERIA															
AVERAGE:															
1969-71....	--	11	--	140	235	26	--	84	--	2	--	--	4	2	--
1973-75....	--	11	--	221	258	29	--	93	--	2	--	--	4	3	--
1976........	--	11	--	245	180	33	--	96	--	3	--	--	9	3	--
1977........	--	12	--	256	180	35	--	98	--	3	--	--	8	3	--
1978........	--	9	--	254	147	36	--	100	--	3	--	--	7	4	--
1979........	--	9	--	260	173	37	--	102	--	3	--	--	8	4	--
1980........	--	9	--	260	188	37	--	102	--	3	--	--	10	4	--

CONTINUED

TABLE 15--AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
LIBYA															
AVERAGE:															
1969-71	39	--	--	--	--	15	20	--	--	11	--	2	--	--	--
1973-75	64	--	--	--	--	79	23	--	--	13	--	1	--	--	--
1976	133	--	--	--	--	85	23	--	--	13	--	1	--	--	--
1977	60	--	--	--	--	80	23	--	--	13	--	1	--	--	--
1978	99	--	--	--	--	85	25	--	--	14	--	1	--	--	--
1979	110	--	--	--	--	90	24	--	--	15	--	2	--	--	--
1980	120	--	--	--	--	90	25	--	--	13	--	2	--	--	--
MADAGASCAR															
AVERAGE:															
1969-71	--	120	--	1,867	1,228	453	--	258	--	42	11	5	58	--	6
1973-75	--	120	--	1,858	1,287	378	--	351	--	39	25	6	72	--	12
1976	--	136	--	2,043	1,390	595	--	360	--	54	35	4	59	--	14
1977	--	121	--	1,950	1,412	536	--	267	--	47	37	3	78	--	15
1978	--	115	--	1,880	1,322	465	--	233	--	34	34	3	43	--	14
1979	--	131	--	2,130	1,348	474	--	236	--	43	31	4	78	--	13
1980	--	128	--	2,350	1,350	500	--	239	--	45	25	4	75	--	11
MALAWI															
AVERAGE:															
1969-71	--	1,051	--	12	144	--	--	--	31	165	14	21	--	--	7
1973-75	--	1,161	--	30	123	--	--	--	59	165	13	31	--	--	6
1976	--	1,100	--	42	110	--	--	--	86	165	14	37	--	--	7
1977	--	1,200	--	43	65	--	--	--	80	174	11	52	--	--	5
1978	--	1,300	--	50	70	--	--	--	92	170	11	51	--	--	5
1979	--	1,200	--	50	80	--	--	--	112	175	16	64	--	--	8
1980	--	1,000	--	50	85	--	--	--	140	177	14	56	--	--	7
MALI															
AVERAGE:															
1969-71	--	69	678	173	155	68	--	--	--	147	37	--	--	--	19
1973-75	--	72	719	201	137	65	--	--	--	159	50	--	--	--	25
1976	--	81	832	227	40	36	--	--	--	230	79	--	--	--	46
1977	--	78	751	199	40	36	--	--	--	229	76	--	--	--	42
1978	--	80	1,035	209	40	37	--	--	--	146	85	--	--	--	48
1979	--	60	744	177	40	37	--	--	--	179	80	--	--	--	48
1980	--	60	740	177	40	38	--	--	--	185	80	--	--	--	48

CONTINUED

TABLE 15--AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
MOROCCO															
AVERAGE:															
1969-71	1,861	387	70	31	--	283	812	--	--	3	14	3	--	--	7
1973-75	1,667	326	72	17	--	292	793	--	--	13	12	4	--	--	6
1976	2,188	493	19	18	--	481	668	--	--	13	10	6	--	--	4
1977	1,288	184	4	16	--	385	1,070	--	--	8	12	5	--	--	6
1978	1,876	390	36	22	--	340	840	--	--	26	8	6	--	--	4
1979	1,797	312	23	18	--	390	1,007	--	--	27	10	7	--	--	5
1980	1,811	333	23	13	--	355	913	--	--	27	14	7	--	--	5
MOZAMBIQUE															
AVERAGE:															
1969-71	9	435	232	113	2,549	80	--	93	--	140	84	--	--	--	42
1973-75	4	410	232	100	2,567	72	--	78	--	96	67	--	--	--	35
1976	3	250	215	45	2,400	60	--	60	--	60	37	--	--	--	18
1977	2	350	220	65	2,450	65	--	68	--	50	37	--	--	--	18
1978	3	400	210	45	2,450	66	--	65	--	52	45	--	--	--	22
1979	3	350	210	45	2,500	63	--	65	--	50	30	--	--	--	15
1980	2	300	210	45	2,500	63	--	65	--	50	30	--	--	--	15
NIGER															
AVERAGE:															
1969-71	--	2	1,237	34	143	--	--	--	--	257	7	--	--	--	3
1973-75	--	4	897	35	178	--	--	--	--	82	5	--	--	--	2
1976	--	12	1,305	29	197	--	--	--	--	79	5	--	--	--	2
1977	--	6	1,472	27	180	--	--	--	--	83	4	--	--	--	2
1978	--	9	1,487	33	205	--	--	--	--	74	4	--	--	--	2
1979	--	8	1,592	24	210	--	--	--	--	50	2	--	--	--	1
1980	--	8	1,750	28	215	--	--	--	--	60	3	--	--	--	2
NIGERIA															
AVERAGE:															
1969-71	--	1,259	6,857	425	11,871	16,653	--	1,280	37	995	114	13	4	271	55
1973-75	--	1,346	5,958	546	13,300	18,802	--	1,390	50	401	92	14	3	216	47
1976	--	1,440	6,545	611	13,900	19,680	--	1,450	40	350	130	10	3	167	81
1977	--	1,500	6,700	620	14,000	19,700	--	1,400	36	643	70	8	3	205	36
1978	--	1,640	6,860	826	14,150	19,810	--	1,425	34	469	80	8	3	140	37
1979	--	1,670	6,915	870	14,600	19,810	--	1,425	29	400	52	12	3	170	29
1980	--	1,720	7,000	1,030	14,800	19,810	--	1,425	32	400	69	12	3	170	40

CONTINUED

TABLE 15 --AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS, IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
RWANDA															
AVERAGE:															
1969-71	--	54	143	--	333	513	--	1,656	--	7	--	--	14	--	--
1973-75	--	62	138	--	373	704	--	1,716	--	10	--	--	19	--	--
1976	--	71	158	--	415	864	--	1,820	--	13	--	--	32	--	--
1977	--	77	166	--	444	879	--	1,896	--	15	--	--	22	--	--
1978	--	70	177	--	373	992	--	1,932	--	14	--	--	19	--	--
1979	--	78	170	--	440	1,081	--	1,963	--	14	--	--	25	--	--
1980	--	81	176	--	456	1,119	--	2,034	--	15	--	--	18	--	--
SENEGAL															
AVERAGE:															
1969-71	--	42	544	118	165	20	--	--	--	755	10	--	--	--	5
1973-75	--	46	642	99	117	23	--	--	17	1,039	24	--	--	--	13
1976	--	47	555	112	114	16	--	--	20	1,182	32	--	--	--	16
1977	--	32	417	64	125	13	--	--	25	671	22	--	--	--	13
1978	--	45	803	147	137	20	--	--	30	1,050	22	--	--	--	12
1979	--	45	476	112	120	20	--	--	35	600	18	--	--	--	9
1980	--	49	553	68	120	20	--	--	35	530	14	--	--	--	8
SIERRA LEONE															
AVERAGE:															
1969-71	--	11	16	444	493	63	104	174	--	20	--	--	6	5	--
1973-75	--	12	17	496	567	72	118	190	--	19	--	--	5	6	--
1976	--	11	14	528	600	76	124	198	--	20	--	--	10	7	--
1977	--	14	20	587	615	78	127	203	--	20	--	--	5	7	--
1978	--	14	20	500	630	80	130	208	--	15	--	--	13	7	--
1979	--	13	20	527	630	80	130	208	--	15	--	--	10	11	--
1980	--	13	20	565	630	80	130	208	--	15	--	--	10	9	--
SOUTH AFRICA, REPUBLIC OF															
AVERAGE:															
1969-71	1,461	6,691	376	--	--	635	520	59	1,629	346	36	35	--	--	18
1973-75	1,753	8,135	421	--	--	687	545	92	1,805	328	66	31	--	--	33
1976	2,239	7,314	280	--	--	725	580	98	2,166	143	37	32	--	--	18
1977	1,860	9,727	394	--	--	800	486	88	2,211	240	69	42	--	--	35
1978	1,690	10,201	625	--	--	745	581	90	2,209	304	102	44	--	--	51
1979	2,136	8,271	371	--	--	714	546	103	2,206	183	110	48	--	--	55
1980	1,468	10,634	680	--	--	747	573	105	1,721	346	126	37	--	--	63

CONTINUED

TABLE 15--AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
SUDAN															
AVERAGE:															
1969-71	134	33	2,117	--	133	--	7	--	--	342	462	--	--	--	236
1973-75	219	42	2,119	--	107	--	23	--	--	596	439	--	--	--	229
1976	264	55	2,165	--	130	--	42	--	--	827	210	--	--	--	113
1977	298	43	2,715	--	115	--	43	--	--	850	291	--	--	--	156
1978	317	46	2,957	--	110	--	44	--	--	1,021	370	--	--	--	203
1979	150	46	2,340	--	110	--	22	--	--	829	230	--	--	--	131
1980	200	50	2,520	--	110	--	40	--	--	800	247	--	--	--	141
TANZANIA															
AVERAGE:															
1969-71	61	626	256	173	2,075	345	22	12	91	29	135	12	51	--	66
1973-75	60	754	358	221	2,872	478	22	257	104	59	121	15	53	--	59
1976	58	897	390	172	3,900	516	23	770	102	74	141	19	48	--	69
1977	35	968	390	194	4,250	521	25	746	101	74	102	18	50	--	50
1978	38	1,041	410	260	4,300	518	28	733	136	70	114	22	51	--	56
1979	30	900	400	200	4,300	518	30	746	130	70	130	25	46	--	64
1980	33	750	380	200	4,500	515	34	746	130	70	102	24	55	--	50
TOGO															
AVERAGE:															
1969-71	--	102	130	19	430	456	--	--	--	18	5	--	12	27	3
1973-75	--	114	130	13	448	438	--	--	--	20	6	--	11	16	3
1976	--	95	113	15	392	428	--	--	--	23	5	--	11	16	2
1977	--	123	107	16	319	403	--	--	--	27	3	--	5	16	2
1978	--	139	115	17	371	507	--	--	--	35	9	--	7	14	4
1979	--	158	136	11	443	494	--	--	--	30	10	--	9	14	5
1980	--	140	110	20	458	510	--	--	--	35	10	--	10	14	5
TUNISIA															
AVERAGE:															
1969-71	450	--	7	--	--	80	76	--	--	--	--	3	--	--	--
1973-75	831	--	9	--	--	94	102	--	--	--	--	2	--	--	--
1976	880	--	8	--	--	105	153	--	--	--	--	4	--	--	--
1977	614	--	8	--	--	85	135	--	--	--	--	4	--	--	--
1978	750	--	10	--	--	105	187	--	--	--	--	5	--	--	--
1979	680	--	8	--	--	120	156	--	--	--	--	5	--	--	--
1980	855	--	8	--	--	130	136	--	--	--	--	5	--	--	--

CONTINUED

TABLE 15 --AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
UGANDA															
AVERAGE:															
1969-71....	--	336	958	--	1,250	988	--	300	147	215	164	3	184	--	82
1973-75....	--	473	1,054	--	1,117	917	--	320	44	215	72	2	200	--	35
1976........	--	629	939	--	1,100	650	--	340	30	198	45	3	132	--	22
1977........	--	515	895	--	1,100	660	--	350	15	208	29	2	160	--	14
1978........	--	660	1,000	--	1,200	674	--	360	10	220	31	3	112	--	15
1979........	--	500	850	--	1,250	689	--	367	12	227	19	3	97	--	9
1980........	--	450	775	--	1,275	693	--	370	10	200	19	3	126	--	9
UPPER VOLTA															
AVERAGE:															
1969-71....	--	63	842	37	30	62	--	--	--	68	25	--	--	--	13
1973-75....	--	68	977	37	28	61	--	--	--	73	20	--	--	--	10
1976........	--	60	1,087	41	35	67	--	--	--	87	34	--	--	--	17
1977........	--	97	940	23	40	63	--	--	--	85	37	--	--	--	18
1978........	--	120	1,025	28	40	69	--	--	--	70	25	--	--	--	13
1979........	--	80	1,000	23	35	67	--	--	--	70	27	--	--	--	13
1980........	--	80	1,000	27	35	60	--	--	--	70	27	--	--	--	13
ZAIRE															
AVERAGE:															
1969-71....	3	378	36	156	9,293	397	--	1,483	41	187	34	--	73	5	19
1973-75....	2	477	52	194	9,184	401	--	1,660	61	239	40	--	77	5	19
1976........	2	510	54	212	11,910	339	--	1,735	46	316	18	--	86	5	9
1977........	3	510	53	214	12,139	340	--	1,752	54	320	27	--	77	5	12
1978........	4	500	53	213	10,885	329	--	1,713	51	307	18	--	78	5	9
1979........	5	500	40	230	12,000	331	--	1,730	51	310	18	--	84	4	9
1980........	5	500	55	235	12,200	340	--	1,765	55	315	20	--	85	4	10
ZAMBIA															
AVERAGE:															
1969-71....	--	250	339	--	144	4	--	--	37	24	6	6	--	--	3
1973-75....	--	507	275	--	173	3	--	--	71	30	3	7	--	--	1
1976........	--	647	275	--	170	3	--	--	90	30	2	7	--	--	1
1977........	--	748	275	--	170	3	--	--	85	73	6	6	--	--	3
1978........	--	644	250	--	173	3	--	--	90	74	8	4	--	--	4
1979........	--	331	200	--	175	3	--	--	95	74	12	5	--	--	6
1980........	--	345	150	--	180	3	--	--	95	80	16	5	--	--	8

CONTINUED

TABLE 15--AFRICA: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	CORN	SORGHUM AND MILLET	RICE, PADDY	CASSAVA	OTHER ROOT CROPS 2/	CITRUS	BANANAS AND PLANTAINS	SUGAR, RAW	PEANUTS IN SHELL	COTTON-SEED	TO-BAC-CO	COF-FEE	COCOA BEANS	COTTON
	1,000 METRIC TONS														
ZIMBABWE															
AVERAGE:															
1969-71....	49	1,475	297	--	46	22	--	--	224	134	84	59	--	--	44
1973-75....	103	1,603	337	--	48	24	--	--	275	170	99	79	--	--	55
1976........	145	1,710	341	--	50	25	--	--	250	200	86	113	--	--	47
1977........	173	1,658	284	--	50	26	--	--	275	152	94	85	--	--	51
1978........	212	1,616	293	--	52	26	--	--	309	105	109	85	--	--	60
1979........	161	1,162	190	--	54	26	--	--	299	77	104	114	--	--	57
1980........	162	1,254	269	--	54	27	--	--	334	77	122	125	--	--	63
TOTAL															
AVERAGE:															
1969-71....	8,023	20,108	18,538	7,222	37,209	29,268	3,033	11,564	2,482	4,387	2,321	180	1,120	1,041	1,243
1973-75....	8,784	23,270	17,575	7,282	39,946	32,402	3,321	12,230	2,834	4,147	2,132	212	1,157	957	1,136
1976........	10,202	23,897	18,628	7,647	44,862	33,952	3,211	13,060	3,191	4,504	1,783	252	1,114	838	974
1977........	7,863	25,954	18,719	7,552	45,356	33,840	3,380	12,958	3,293	4,483	1,780	241	1,037	918	961
1978........	8,507	26,957	20,320	7,854	44,518	34,053	3,451	13,171	3,458	4,722	2,008	248	1,048	860	1,099
1979........	8,938	23,273	18,517	8,263	46,598	34,793	3,768	13,291	3,556	3,941	1,923	305	1,030	991	1,079
1980........	8,423	26,024	19,286	8,511	47,391	35,174	3,746	13,376	3,308	4,029	2,034	296	1,054	976	1,163

-- = NONE, NEGLIGIBLE, OR NOT IDENTIFIED IN ESS DATA BASE.

1/ DATA FOR 1980 ARE PRELIMINARY.
2/ OTHER ROOT CROPS MAY INCLUDE YAMS, COCOYAMS, SWEETPOTATOES, AND WHITE POTATOES.

TABLE 16 --MIDDLE EAST: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80

COUNTRY AND YEAR 1/	WHEAT	BARLEY	CORN	RICE, PADDY	PULSES 2/	GRAPES	CITRUS FRUIT	DATES	COTTON	COTTON-SEED	TO-BAC-CO	SUGAR-BEETS	MILK	WOOL	MEAT
	1,000 METRIC TONS														
CYPRUS															
AVERAGE:															
1969-71....	74	87	--	--	12	189	196	--	--	--	1	--	--	--	--
1973-75....	62	68	--	--	5	136	281	--	--	--	1	--	--	--	--
1976........	88	121	--	--	6	168	207	--	--	--	1	--	--	--	--
1977........	70	75	--	--	6	160	205	--	--	--	1	--	--	--	--
1978........	80	83	--	--	6	144	192	--	--	--	1	--	--	--	--
1979........	75	60	--	--	6	152	204	--	--	--	1	--	--	--	--
1980........	80	80	--	--	6	157	211	--	--	--	1	--	--	--	--
IRAN															
AVERAGE:															
1969-71....	3,667	1,067	35	1,095	105	263	257	293	156	324	18	--	1,867	20	244
1973-75....	4,450	933	38	1,204	129	336	303	295	190	347	14	--	1,937	17	554
1976........	5,500	1,150	40	1,276	160	460	250	300	155	294	15	--	2,180	16	722
1977........	5,000	1,100	55	1,051	165	498	350	300	180	335	15	--	2,220	16	739
1978........	5,300	1,000	60	1,288	160	540	300	290	150	288	24	--	2,500	17	738
1979........	5,000	970	57	1,212	171	500	325	300	100	232	25	--	2,300	16	700
1980........	4,750	1,000	55	1,163	160	520	315	310	100	232	20	--	2,000	16	600
IRAQ															
AVERAGE:															
1969-71....	1,080	692	--	268	46	139	37	439	13	28	15	--	1,300	13	107
1973-75....	1,047	477	--	95	46	258	49	404	41	89	11	--	1,357	12	164
1976........	1,312	579	--	164	55	345	77	372	34	73	9	--	1,540	13	210
1977........	696	457	--	199	59	360	110	578	37	80	10	--	1,600	13	230
1978........	910	617	--	170	63	424	137	389	39	82	11	--	1,700	13	250
1979........	880	620	--	185	66	426	138	392	40	83	12	--	1,800	13	270
1980........	1,300	980	--	190	68	420	140	490	40	83	11	--	1,850	13	280
ISRAEL															
AVERAGE:															
1969-71....	160	18	--	--	--	69	1,279	--	37	57	--	237	480	--	134
1973-75....	253	23	--	--	--	79	1,582	--	45	76	--	198	594	--	217
1976........	206	18	--	--	--	78	1,458	--	54	87	--	324	701	--	252
1977........	220	17	--	--	--	70	1,496	--	64	108	--	320	723	--	261
1978........	169	8	--	--	--	76	1,436	--	79	133	--	117	720	--	259
1979........	133	5	--	--	--	67	1,539	--	75	124	--	140	737	--	261
1980........	250	35	--	--	--	72	1,528	--	78	126	--	--	715	--	260

CONTINUED

TABLE 16--MIDDLE EAST: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	BARLEY	CORN	RICE, PADDY	PULSES 2/	GRAPES	CITRUS FRUIT	DATES	COTTON	COTTON-SEED	TO-BAC-CO	SUGAR-BEETS	MILK	WOOL	MEAT
	1,000 METRIC TONS														
JORDAN															
AVERAGE:															
1969-71	155	38	--	--	30	41	59	--	--	--	--	--	--	--	--
1973-75	144	34	--	--	38	54	82	--	--	--	--	--	--	--	--
1976	68	13	--	--	41	46	91	--	--	--	--	--	--	--	--
1977	63	12	--	--	46	57	113	--	--	--	--	--	--	--	--
1978	52	15	--	--	41	60	110	--	--	--	--	--	--	--	--
1979	15	5	--	--	18	50	100	--	--	--	--	--	--	--	--
1980	185	67	--	--	31	55	107	--	--	--	--	--	--	--	--
LEBANON															
AVERAGE:															
1969-71	35	6	--	--	9	94	243	--	--	--	7	122	--	--	--
1973-75	54	11	--	--	11	101	295	--	--	--	10	126	--	--	--
1976	40	13	--	--	11	45	287	--	--	--	9	36	--	--	--
1977	50	8	--	--	14	80	318	--	--	--	5	123	--	--	--
1978	45	8	--	--	8	130	321	--	--	--	5	118	--	--	--
1979	40	5	--	--	12	135	326	--	--	--	5	108	--	--	--
1980	40	7	--	--	11	135	320	--	--	--	5	120	--	--	--
SAUDI ARABIA															
AVERAGE:															
1969-71	119	29	5	3	--	16	6	215	--	--	--	--	--	--	55
1973-75	115	21	15	3	--	53	10	348	--	--	--	--	--	--	72
1976	205	22	21	3	--	58	14	340	--	--	--	--	--	--	81
1977	150	25	25	3	--	55	12	335	--	--	--	--	--	--	82
1978	175	25	25	3	--	57	14	310	--	--	--	--	--	--	89
1979	200	25	25	3	--	60	15	320	--	--	--	--	--	--	95
1980	250	28	27	3	--	62	15	325	--	--	--	--	--	--	104
SYRIA															
AVERAGE:															
1969-71	763	328	--	--	132	215	--	--	152	247	10	216	--	9	--
1973-75	1,258	452	--	--	145	226	--	--	153	248	11	159	--	8	--
1976	1,790	1,059	--	--	298	319	--	--	156	253	17	242	--	13	--
1977	1,217	337	--	--	247	353	--	--	150	245	15	273	--	14	--
1978	1,580	600	--	--	238	360	--	--	144	236	15	232	--	14	--
1979	1,319	394	--	--	169	400	--	--	120	220	14	289	--	14	--
1980	1,950	1,300	--	--	228	400	--	--	118	205	15	250	--	14	--

CONTINUED

TABLE 16.--MIDDLE EAST: PRODUCTION OF SELECTED AGRICULTURAL COMMODITIES, BY COUNTRY, AVERAGE 1969-71, 1973-75, ANNUAL 1976-80--CON.

COUNTRY AND YEAR 1/	WHEAT	BARLEY	CORN	RICE, PADDY	PULSES 2/	GRAPES	CITRUS FRUIT	DATES	COTTON	COTTON-SEED	TO-BAC-CO	SUGAR-BEETS	MILK	WOOL	MEAT
	1,000 METRIC TONS														
TURKEY															
AVERAGE:															
1969-71	9,000	3,720	1,058	237	577	3,350	644	--	441	705	155	4,522	4,318	47	529
1973-75	9,267	3,577	1,147	236	632	2,948	833	--	531	849	184	5,917	4,693	52	548
1976	13,000	4,900	1,310	243	743	2,760	963	--	476	750	315	9,406	5,000	54	565
1977	13,500	4,750	1,265	254	800	2,740	1,035	--	575	920	245	8,995	5,034	55	632
1978	13,300	4,750	1,300	292	722	3,168	986	--	475	760	288	8,836	5,157	57	634
1979	13,000	5,000	1,350	346	753	3,164	1,055	--	476	769	214	8,760	5,411	58	591
1980	13,800	5,200	1,250	385	780	2,842	970	--	480	777	266	9,000	5,600	60	571
TOTAL															
AVERAGE:															
1969-71	15,054	5,985	1,098	1,603	911	4,377	2,720	947	800	1,361	206	5,097	7,965	89	1,068
1973-75	16,649	5,596	1,200	1,538	1,006	4,190	3,437	1,047	960	1,609	231	6,400	8,581	89	1,554
1976	22,209	7,875	1,371	1,686	1,314	4,279	3,347	1,012	875	1,457	366	10,008	9,421	96	1,830
1977	20,966	6,781	1,345	1,507	1,337	4,373	3,639	1,213	1,006	1,688	291	9,711	9,577	98	1,944
1978	21,611	7,106	1,385	1,753	1,238	4,959	3,496	989	887	1,499	344	9,303	10,077	101	1,970
1979	20,662	7,084	1,432	1,746	1,195	4,954	3,702	1,012	811	1,428	271	9,297	10,248	101	1,917
1980	22,605	8,697	1,332	1,741	1,284	4,663	3,606	1,125	816	1,423	318	9,370	10,165	103	1,815

-- = NONE, NEGLIGIBLE, OR NOT IDENTIFIED IN ESS DATA BASE.

1/ DATA FOR 1980 ARE PRELIMINARY.
2/ PULSES MAY INCLUDE DRY BEANS, BROAD BEANS, LENTILS, CHICKPEAS, COWPEAS, DRY PEAS, VETCH, BAMBARRA GROUNDNUTS, AND PIGEON PEAS.

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